

# The Metal Worker

ROOFING, CORNICE, TIN, PLUMBING AND HEATING  
STOVE, A WEEKLY JOURNAL OF THE, FRAMES.

With which is Incorporated The Stove and Tin Trade Journal, the Sheet Metal Builder, and Metal.

VOL. XLIX.  
NUMBER 17.

NEW YORK AND CHICAGO, APRIL 23, 1898.

{ ONE DOLLAR A YEAR.  
{ SINGLE COPIES, 5 CENTS

## AMERICAN SEAL

PUT UP ESPECIALLY FOR JOBBING TRADE.  
WILLIAM CONNORS, Troy, N. Y.

STOVE PUTTY.  
FURNACE CEMENT.  
ELASTIC OIL  
ROOFING CEMENT.  
ROOFING PAINT.

## The "Gorton Side-Feed" Boilers

WILL BURN HARD OR SOFT COAL.

You Want the Best. We Have It.  
SEND FOR CATALOGUE AND INVESTIGATE FOR YOURSELF.  
GORTON & LIDGERWOOD CO., 96 Liberty St., New York.

197-203 Congress St., Boston. Old Colony Bldg., Van Buren and Dearborn Sts., Chicago.

Gray Iron Castings. S. CHENEY & SON,  
Manlius, N. Y.

## EASTWOOD VALVE.

EASTWOOD WIRE MFG. CO., - Belleville, N. J.

## The Ideal Cooking Range

whether for use or sale, is the Excelsior Range. The kind of good points which it has are the kind that appeal to the experience and intelligence of every housewife, and to the bank account of every experienced dealer.

Made in many styles, either portable or brick-set.

ISAAC A. SHEPPARD & CO., Philadelphia and Baltimore.

We make the Paragon Furnace—a money-getter for you.



APOLLO BEST BLOOM  
GALVANIZED IRON.

"As good as Apollo"—this particular lie doesn't do any harm; it's as old as Methusalem.

Does us good; and the public too. If all the galvanized iron were said by maker and seller to be "as good as Apollo," the lie would defeat itself and advertise us.

Apollo Iron and Steel Company,  
Pittsburgh, Pa.

## Sylvia Low-Down Closet Combination.

This is a combination of vitreous syphon hopper with tank of best construction in the matter of valve and ball cock, and wood work of piano finish. It fully meets the demand for a strictly first-class closet suitable for any work at a moderate price. Cuts and prices sent on application.

E. S. WHEELER & CO.,  
256 Water St., New Haven, Conn.

New York Store, 194 Front St.  
New York Show Room, 160 Fifth Ave.  
Boston Agency, 220 Devonshire St.

HOUSEHOLD RANGES, HEATERS. Send for Catalogue.  
The White-Warner Co.,  
TAUNTON, MASS.

WILLIAMS STOVE LINING CO.,  
TAUNTON, MASS., FIRE BRICK LININGS.  
Manufacturers of

STEAM TRAPS, Pump Governors, Back Pressure Valves,  
Pressure Regulating Valves, Radiator  
Valves, Water Seal Automatic Air Valves.  
JUDSON A. GOODRICH CO.,  
120 BEEKMAN ST., - - NEW YORK.

## Steam Specialties.

Pump Governors, Noiseless Back  
Steam Traps, Pressure Valves,  
Steam and Water Water Arches,  
Reducing Valves, and Oil Separators.  
Tank Temperature Controller.

T. KIELEY, 9-17 W. 13th St., NEW YORK.

## JENKINS AUTOMATIC AIR VALVES



with Drip-pipe Connections insure perfect circulation. You are not annoyed with escaping steam or dripping of water. They are stamped with our Trade-Mark.

JENKINS BROTHERS,

New York, Boston, Chicago, Philadelphia.

## THE MAGEE CATALOGUE

Shows a complete line of cooking  
and heating apparatus.

SEND FOR A COPY.

MAGEE FURNACE CO., Boston, Mass.



Every disagreeable feature heretofore common  
to Oil Stoves is now

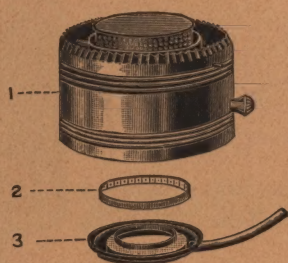
**Absolutely Overcome**

in the

# PURITAN WICKLESS

**Blue Flame Oil Cooking  
Stoves.**

We mean it and can prove  
it with a sample.



Only three simple parts.

Send for Catalogue.



***Guaranteed in Every Respect.***

Do not be discouraged if you have found other  
makes unsatisfactory. We know what we  
have and state facts only.

***Our Stove Will Surprise You.***

## THE CLEVELAND FOUNDRY CO.,

CLEVELAND, BOSTON, SAN FRANCISCO, 132 Market St.

TORONTO: R. BIGLEY, Agt. for Ontario.



NEW YORK, February 23d, 1898.

MESSRS. FRYER &amp; BALTHASAR:

GENTLEMEN:—I write to say that the Steam Heating Apparatus and Carton Boiler you put in the "Shelburne," 256 West 55th Street, for me last Summer, has given *excellent satisfaction*.

During the very cold weather there seemed to be *no trouble to secure heat in every part of the house*, often, in fact, too much rather than too little. In regard to consumption of coal, since the janitor has learned how to manage it I think it is running very even, and the boiler seems to be one in which the fire can be easily controlled and the steam kept at a uniform pressure, also the *system of piping is very simple*, and there is *entire freedom from noise*.

I may say that I am very well satisfied with the results, and should any of your customers desire to inspect the boiler, the janitor will at any time give them the opportunity to do so.

Very truly yours,

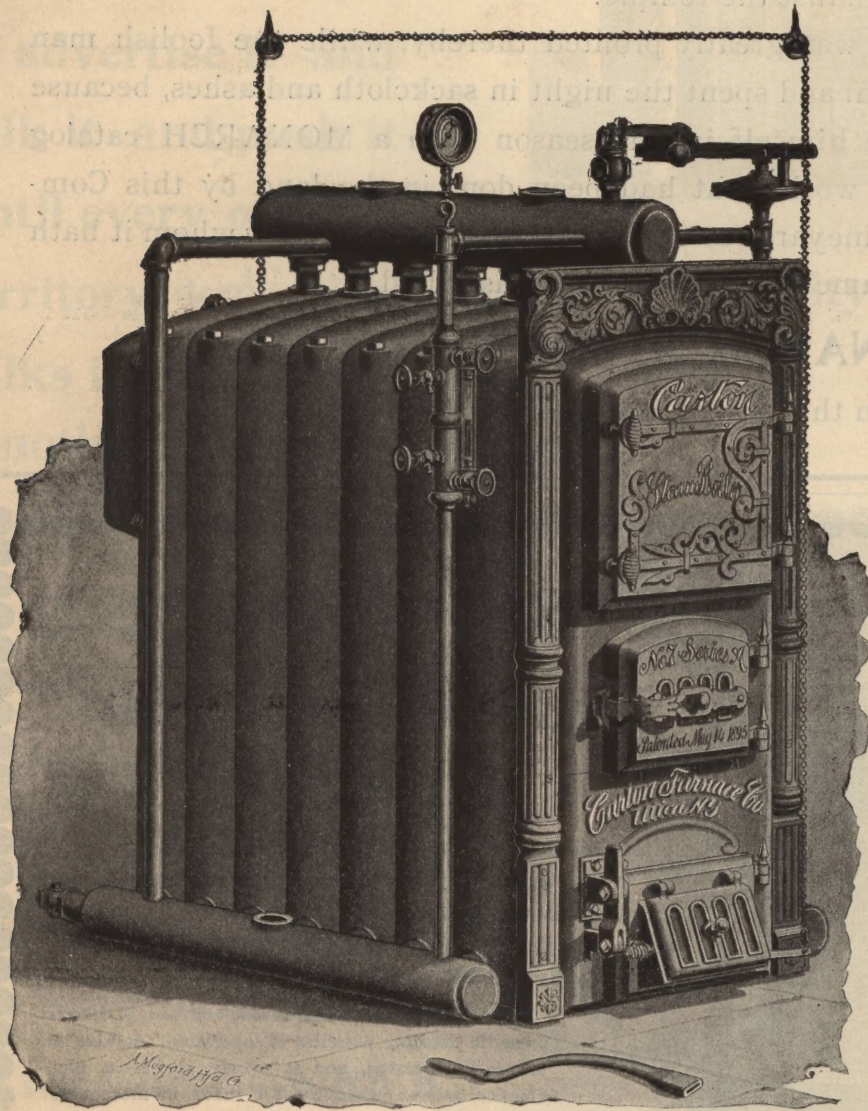
WILLIAM T. COMSTOCK,

Publisher "Architecture and Building,"

23 Warren Street, N. Y.

MAXIMUM RATIO  
OF  
**Fire  
Surface**  
TO  
**Flue  
Surface**

Write for our  
**GOLDEN JUBILEE BOILER  
CATALOGUE.**



If interested in Hot Air Furnaces—we make a most complete line—send for Furnace Catalogue.

**CARTON FURNACE CO.,**

Makers of Heating Apparatus for over 50 Years,

**UTICA, N. Y.**



# The Foolish Man

hath said in his heart, I will buy but a sample, and if the trade demandeth more I will lift up my voice and order in another one.

But the wise man ordereth his stock straightway and getteth them well displayed upon his threshing floor ; and behold, there cometh to his house a great multitude of people, who, having heard that these were the MONARCH Vapor Stoves and Asbestos-Lined Ovens, sought to obtain one for their own household before they had all vanished away, fearing that the great stress of the people might soon exhaust the temple.

And the wise man was greatly profited thereby, while the foolish man betook himself to the cellar and spent the night in sackcloth and ashes, because he had failed to provide himself in due season with a MONARCH catalog which told of the mighty works that had been done in the land by this Company of laborers in the vineyard for the uplifting of man, and for whom it hath profited much, and the name of this Company was called

**THE MONARCH STOVE & MFG. CO.,**

and their vineyard was in the City of Mansfield in the State of Ohio.

## The Model Steel Range

*Has No Superior  
in Merit.*

Attention is invited to our new, richly finished warming closet and shelves, the perfectly balanced oven door that never can get out of order, and which so many are trying to imitate, but without success, because it's covered by strong patents, etc.

The "Model" is honest in size and weight, handsome in design, noiseless in operation, durable in use, easily operated, and as nearly perfect as mechanical art can make it. It is made in more sizes and styles than any other, so you can get just what you want if you look for it.

It is all that its name implies, and "THE PRICE IS RIGHT."

The Portsmouth, Ohio,  
Portsmouth  
Stove &  
Range  
Co.,

Busiest makers  
of Stoves and  
Ranges in the  
world.

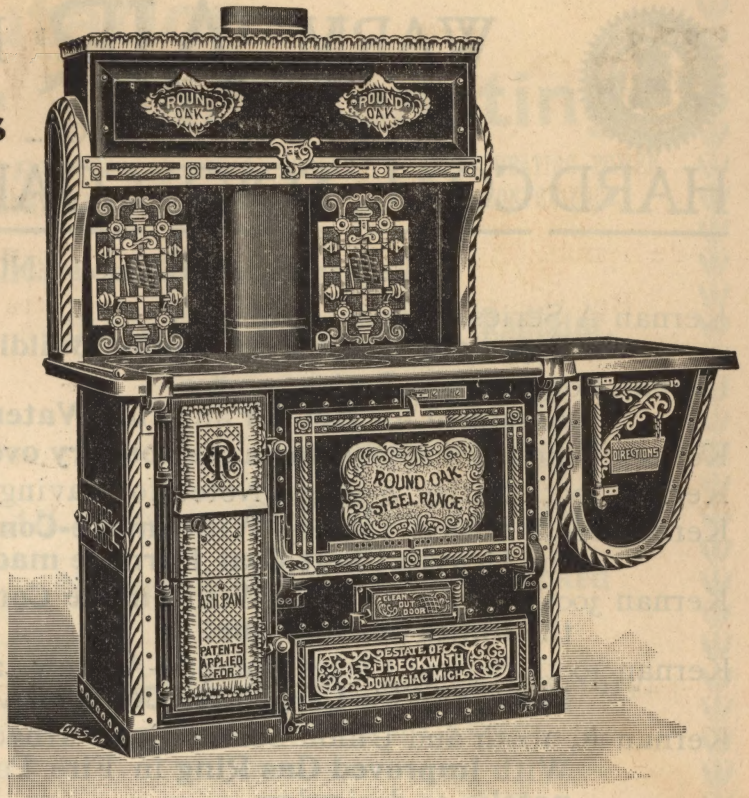




## GINGER !!!

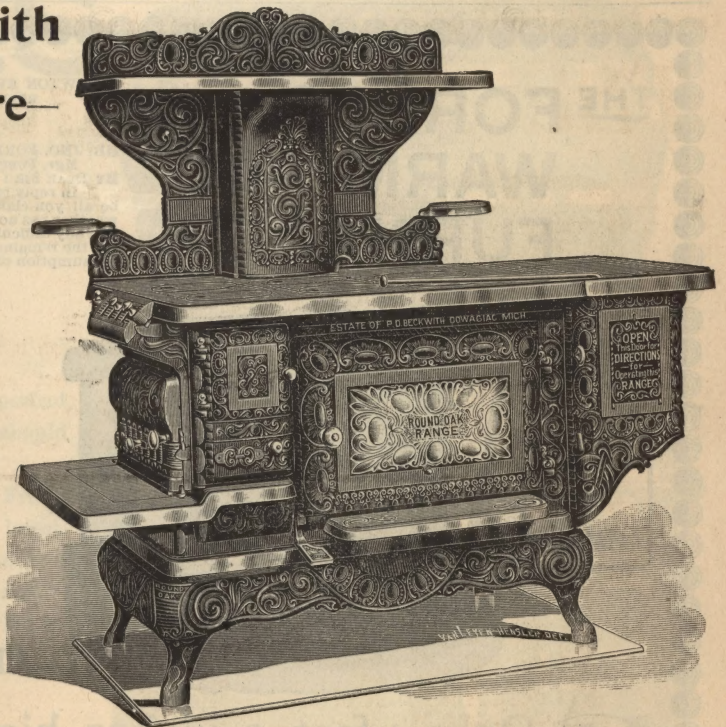
How many merchants  
have it ?

And how many realize  
the value of having a  
good specialty—and the  
enthusiastic ginger  
to advertise it—and  
talk it—and push it—  
until every one in the  
territory—knows it—and  
talks it, and thinks there  
is nothing on earth so good ?  
There's some—they are with  
us—there ought to be more—  
we are looking for them—  
with the highest class  
ranges on earth—The Air  
Tight Round Oak Ranges  
Waiting to be handled  
by merchants with a  
belief in ginger—and  
good goods.



Every Style and Size.

Keeps fire  
all night!



Every Style and Size.

For agency address by first mail  
(Nothing is gained by waiting)

Estate of P. D. BECKWITH,  
DOWAGIAC, MICH.



Makers of high class goods only.





# WARM AIR FURNACES



...FOR...

## HARD COAL, SOFT COAL and NATURAL GAS.

We manufacture Furnaces — NOT Correspondence.

Kernan A Series, 5 sizes—

**Especially adapted for Public Buildings and Large Dwellings.**

Kernan Combination Series, 7 sizes—

Arranged for **Hot Air and Hot Water** (A **Reliable** Hot Water Attachment).

Kernan Union, 6 sizes—Known the **country over** for its **Beautiful Construction**.

Kernan 100th Series, 6 sizes—Noted for having **long Fire Travel**.

Kernan 200th Series, 5 sizes—With **Smoke-Consuming** Attachment. Without doubt the **Heaviest Soft Coal Furnace made**.

Kernan 300th Series, 5 sizes—With **Smoke Consuming** Attachment. Price **within the limits of every one**.

Kernan 400th Series, 5 sizes, for '98—A new **20th Century** Furnace, constructed **Especially for Large City Contracts**.

Kernan A, 100th and Union Series, Gas Furnaces, 9 sizes—

With **Improved Gas Ring** in Fire Pot. For burning gas and coal **alternately**, as desired.

**Casings, 28 to 62 inches.**

**Fire Pots, 16 to 32 inches.**

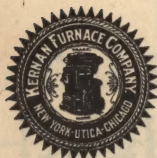
Write for Catalogue and Discount.

### KERNAN FURNACE COMPANY.

W. S. REED, Manager,  
Marshalltown, Ia.

UTICA, N. Y.

NEW YORK OFFICE,  
105 Beekman St.



## THE FORBES WARM AIR FURNACE.

I. NEWTON EVANS,  
REAL ESTATE,  
HATBORO, PA.

TUESDAY AND FRIDAY,  
221 SOUTH FIFTH STREET,  
PHILADELPHIA.

HATBORO, PA., Dec. 26th, 1896.

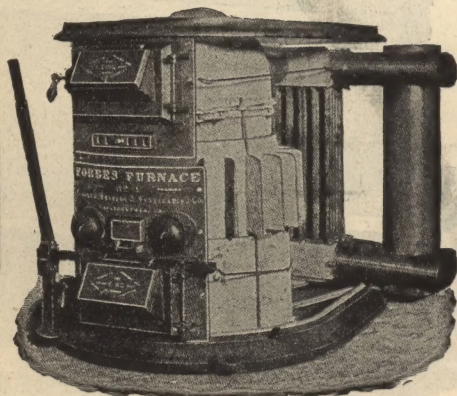
MR. JNO. FORBES,  
MGR. TUBULAR HEATING AND VENTILATING CO.

MY DEAR SIR:

In reply to your inquiry about the Forbes Furnace, would say I think it will be all you claimed for it. We have now had it about a month, and although the weather has not reached zero, it has been down to 10 degrees above. We have not had any difficulty in keeping our rooms comfortable, and do not think we shall during the remainder of the winter. It is easily managed and I think economical in the consumption of coal.

Very truly,


I. N. EVANS.



SEND  
FOR  
CATALOGUE

## COLD SMOKE PIPE. HOT AIR PIPE.

Heats with one-third to one-half  
the coal used by other furnaces.

 Only 4 feet 3 inches high in the Largest Sizes.

... **LOW PRICE** ...

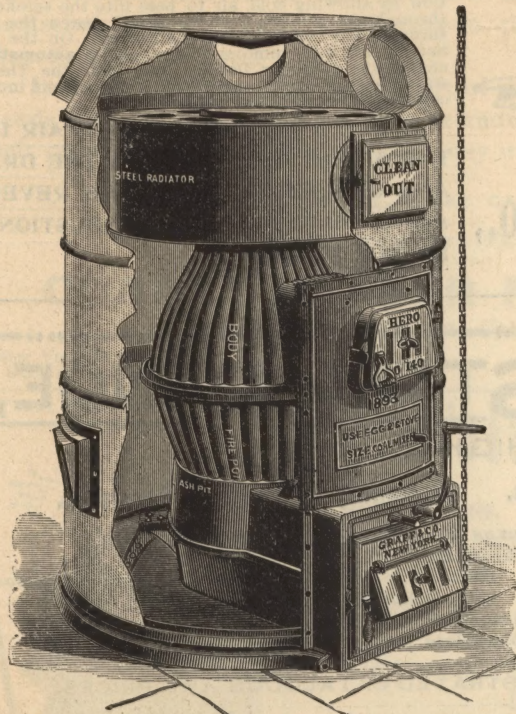
## TUBULAR HEATING AND VENTILATING COMPANY,

228 QUARRY STREET, PHILADELPHIA.



# A Good Reputation Is Better Than Boasting!

Our **HERO Furnaces** have *EARNED* a reputation for DURABILITY, GREAT HEATING POWER, ECONOMY, MECHANICAL CONSTRUCTION and GENERAL CONVENIENCE.



Heavy Castings,

Heavy Steel Plate Tubular Radiator,

Revolving Grate Bars,

Deep Ash Pits.

*All Parts are Well Made and Mounted.*

No complicated flues to get choked  
up and give trouble.

Thoroughly Reliable and Satisfactory.  
32-inch to 50-inch Casings.

## GRAFF & CO.,

*Manufacturers,*

208 Water Street, - New York.

# P RANGES

## A Are Best

### BECAUSE

They're made stronger, better, more perfect than any other similar construction. You should write for prices and secure our Catalogue.

It is made with High Closet, Rolling Front, Six Holes, for Hard or Soft Coal; is the latest, best and handsomest Steel Range ever offered, one that you can offer as simply "out of sight" compared with that sold by the peddlers. Try it.

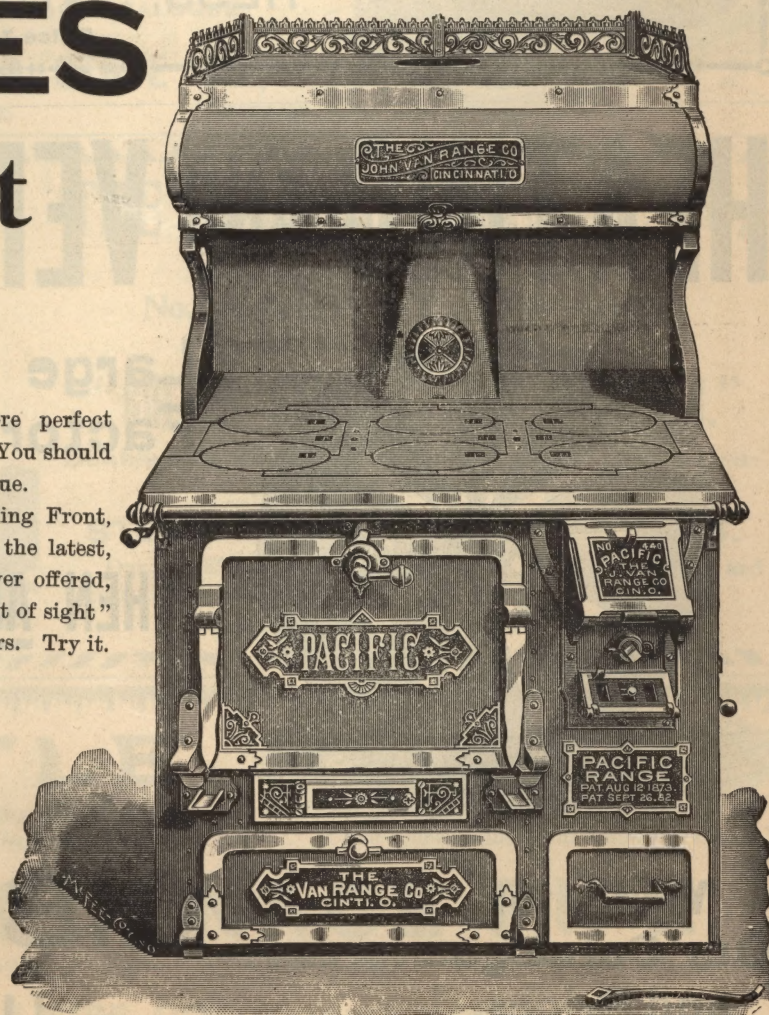
... THE ...

### John Van Range Co.

Warerooms:—419 ELM ST.;

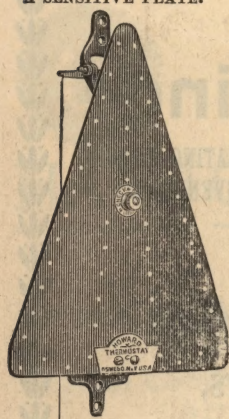
Factories:—6-8-10 and 12 HOME ST.,

CINCINNATI, O.





THE THERMOSTAT,  
A SENSITIVE PLATE.



TO HEATER DRAFTS  
OVER PULLEYS.

# HOWARD

AUTOMATIC

Draft Regulator.

DID YOU

READ ABOUT IT

MADE SOLELY BY

Howard Thermostat Co.,

Catalogue free.

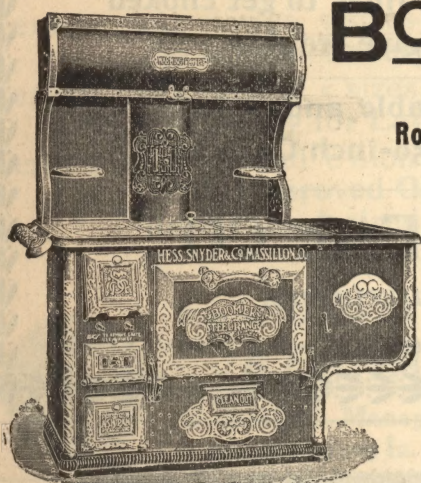
OSWEGO, N. Y.

A word  
about

ITS EFFECT UPON A  
HEATER.

We are sometimes asked, "Why does the Draft Regulator affect BOTH DRAFT AND CHECK, when it is connected with the smoke pipe only?" No better illustration can be obtained than by considering anything which has a natural tendency to move or operate in the desired direction, the same as the heated air in the smoke pipe and flue. This air is continually rising, and consequently drawing more air through the fire to take its place and increase combustion. If you retard that action by allowing cold air to pass into the smoke pipe through our Cylinder Damper, it will lessen the draft through the heater and check the fire. On the other hand when you remove this check by **automatically** closing the Cylinder Damper slots with the Thermostat Plate, it must **supply draft** to the fire and increase combustion in the same proportion.

**IF THE ADMISSION OF COLD AIR INTO THE SMOKE PIPE RETARDS THE DRAFT AND CHECKS THE FIRE, THE REVERSE ACTION MUST PROMOTE COMBUSTION and SUPPLY DRAFT.**



## BOOMER STEEL RANGE,

WITH HIGH CLOSET.

Rolling Front. Six Holes. Stationary or Portable Reservoir.

Hard or Soft Coal, also burns Wood 27 inches long.

No. 14 Gauge, best steel throughout.

Oven door balanced with an improved method of Coil Spring and Toggles.

Grate removed without disturbing linings.

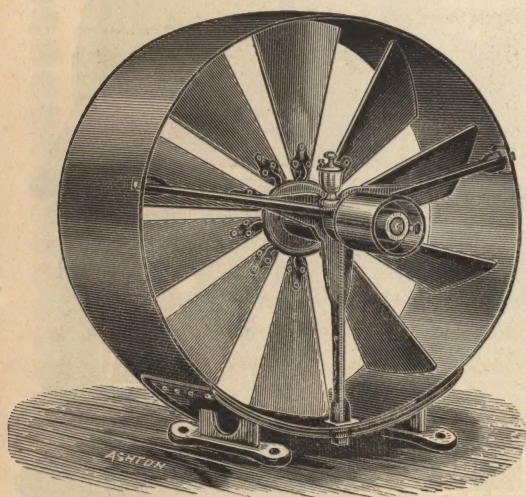
First class, Latest and Up-to-Date Range in every respect.

WRITE FOR ILLUSTRATED CATALOGUE AND PRICES.

When you want a **GOOD FURNACE** don't forget the  
**CELEBRATED BOOMER.**

**HESS, SNYDER & CO.,** Manufacturers,  
Office 73 South Erie Street, MASSILLON, OHIO.

# HEATING AND VENTILATING



Large Buildings,  
Factories, Etc.,

can be easily done if the air can be easily moved. To eject the cold and inject the warm air secures certain results

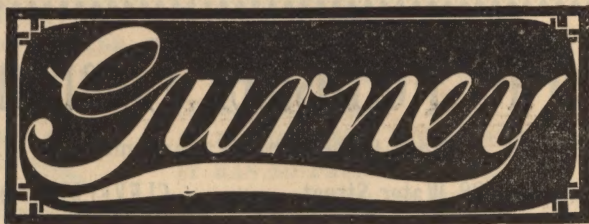
**WHEN ALAND FANS ARE USED.**

A slight touch sets fan in motion, and the bearings are so perfect that a high speed is obtained with a very little power. Suitable for all purposes for ventilating and for removing gas, dust, smoke, steam, etc.

Write for  
Our Catalogue (Just Out)  
and Prices.

**GIBLIN & CO.,**  
UTICA, N. Y.





**HOT WATER HEATERS and STEAM BOILERS** have proved themselves to be eminently satisfactory to the Trade and Fitter, in general, wherever used.

It shows a **Bright Idea** on the part of the fitter when he recommends the use of Gurney Boilers, as he knows they will stand up to their ratings and do all that we claim they will.

SEND FOR LATEST TRADE CATALOGUE.

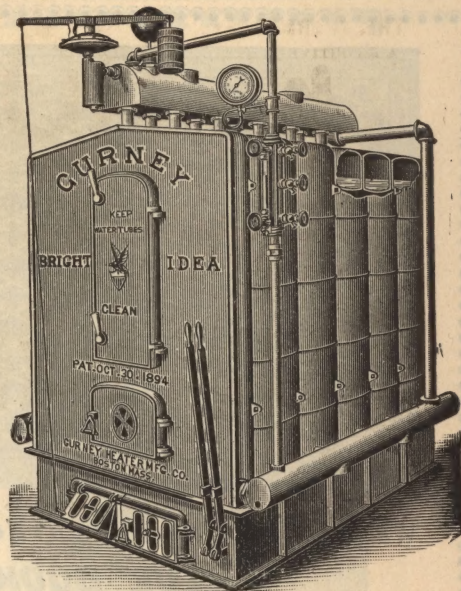
SOLD THROUGH THE TRADE.

## GURNEY HEATER MFG. CO.,

74 Franklin Street, Cor. Arch,

BOSTON, MASS.

New York Branch:  
48 CENTRE STREET.



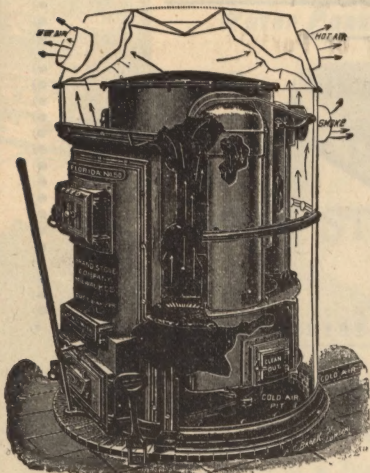
"BRIGHT IDEA"

Safety Water Tube Steam Boiler.

THE FAMOUS MAGNET.  
FOR WOOD.

THE FAMOUS FLORIDA.  
FOR COAL.

## Brand's Famous Furnaces.



Revertible Flues.  
Extra Large Radiator.  
Heavy Fire Pot.  
Revolving or  
Flat Grates.  
Very Large Ash Pit  
Door.  
Spacious Ash Pit.  
Gas and Dust Proof.

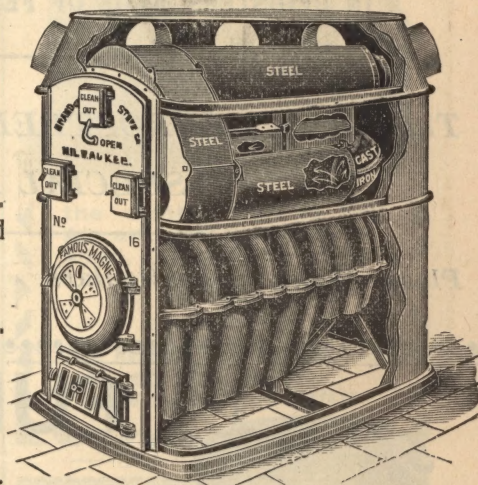
Efficiency in Heating.  
Large Radiating  
Surface.  
Easy Access to  
Radiator.  
Durability Unsurpassed  
Made in 3 Sizes.  
38-50-60 Inch Fire  
Boxes.

WRITE FOR CATALOGUE.

BRAND STOVE CO.,

MILWAUKEE.

CHICAGO.



## THE SIMONDS FURNACE CO.,

SUCCESSORS TO THE SIMONDS MANUFACTURING CO.,

No. 50 CLIFF ST., NEW YORK,

Manufacturers of the Celebrated

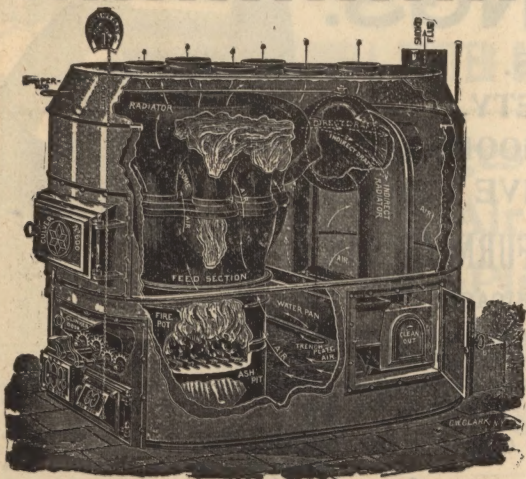
## "CULVER AND MONTANA FURNACES."

Double and Single Oven Ranges, with special features and latest designs.

## STEAM AND HOT WATER BOILERS.

Our new Elliptic Furnace has unequaled radiating surface and is sure to give satisfaction.

Send for Catalogues and Prices.



## A LITTLE HORSE

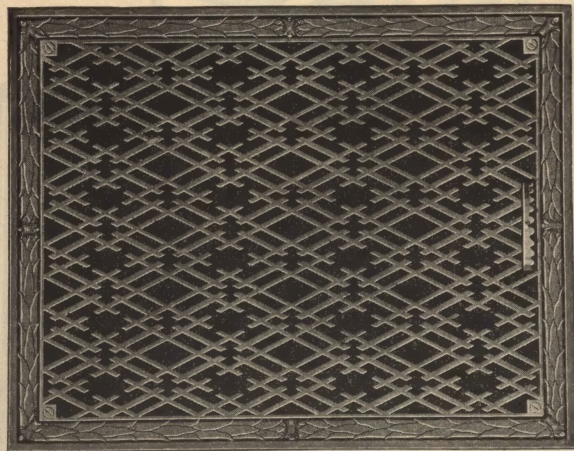
sense applied to the question of furnace heating will demonstrate the fact that **good hot air pipe** is as much of a consideration as a good furnace. **Poor piping means much waste.** If you concede this let us mail you catalogue of

## SAFETY FURNACE PIPE

that is a good pipe constructed on scientific principles. A money, time and labor saver and worth your attention.

SAFETY FURNACE PIPE CO., 11 and 13 E. Atwater St., Detroit, Mich.





# The Ferrosteel Company,

Main Offices and Warerooms:

86 and 88 Water Street,

CLEVELAND, OHIO.

Branches:

New York City, 105 Beekman Street.

Boston, - - 92 North Street.

Chicago, - - 45 and 47 Lake St.

We are receiving so many letters in reference to our 1898 edition of

## ✱ BLUE BOOK FOR THE REGISTER TRADE ✱

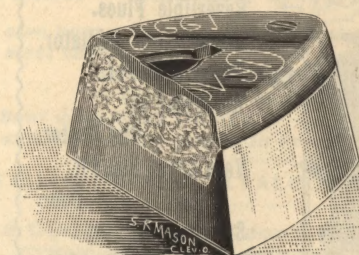
and all to the effect that it is by far the best book ever published on the subject.

If it is the best, should you not have a copy?

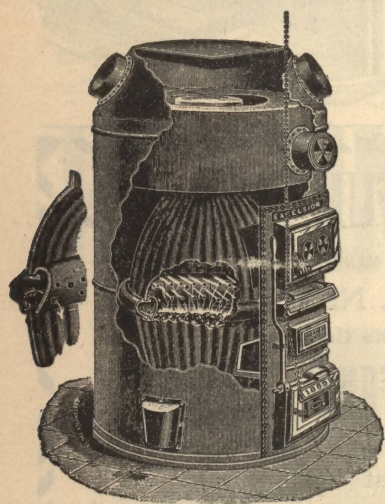
IN REGISTERS MADE OF FERROSTEEL YOU GET THE VERY HIGHEST GRADE.

The No. 20 FERROSTEEL  
SPECIAL IRON.

Please Write for Particulars.



Sectional  
Cut showing  
Asbestos  
Fibre  
Lining.



## FURNACES AND FITTINGS.

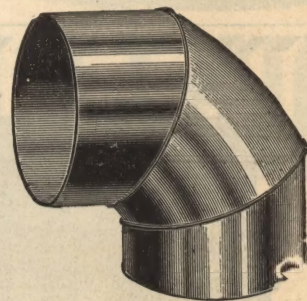
ALL SIZES, ALL KINDS.  
IN ENDLESS VARIETY.  
FIRST CLASS GOODS  
AT ATTRACTIVE PRICES.

THE EXCELSIOR STEEL FURNACE CO.,

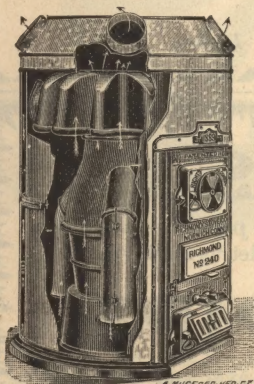
38 W. MONROE ST., CHICAGO.

See Page 31 of "Metal Worker" of Sept. 25th for cut of Grates,  
Radiator and Gas Ring of Furnace shown above.

The Original  
and only  
Complete Line



of Furnace  
Pipes and  
Fittings.



Better Boilers and Furnaces cannot be made at any price.  
Inferior Boilers and Furnaces are often sold at our prices.  
Find out what a

## RICHMOND

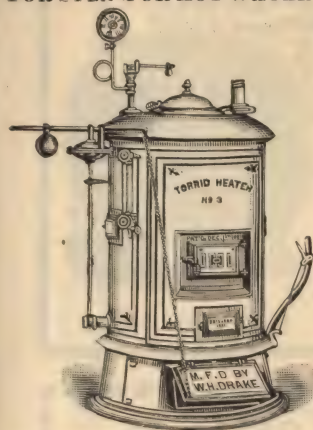
Will cost.

Do not consult us if you want CHEAP GOODS.

THE RICHMOND STOVE COMPANY, Norwich, Conn.

NEW YORK HOUSE, 85 Centre Street.



**"TORRID" HEATER.**  
FOR STEAM OR HOT WATER.

IT IS PRACTICAL IN DESIGN.  
IT IS SAFE, BEING TESTED TO 200 POUNDS.  
IT IS EASY TO MANAGE AND KEEP CLEAN.  
IT IS DURABLE.  
IT IS SECTIONAL AND EASILY HANDLED.  
IT HAS NO PACKED JOINTS.  
IT IS SELF-FEED OR SURFACE BURNING.  
IT HAS THE TORRID PATENT ROCKING AND DUMPING GRATE.  
IT IS LOW IN PRICE.

SEND FOR CATALOGUE.

MANUFACTURED BY

**W. H. DRAKE,** No. 36 Clinton St.,  
NEWARK, N. J.  
Factory: Hackettstown, N. J.

**The Mitchell Water Heater.***Has no Joints to Burn Out or Leak.**Heating Surface all in One Casting  
Water Passages all Vertical.**Largest Amount of Fire Surface***OUR 100 SERIES****FOR STEAM OR HOT WATER.**

Is constructed on the same general principle, but arranged to be used without jacket.

If you have competition and want to make a low estimate to secure the job, we can help you do it.

Write for . . .

Catalogue and Prices.

**THE MITCHELL HEATER CO.,** 50-60 Pine St.,  
POUGHKEEPSIE, N. Y.



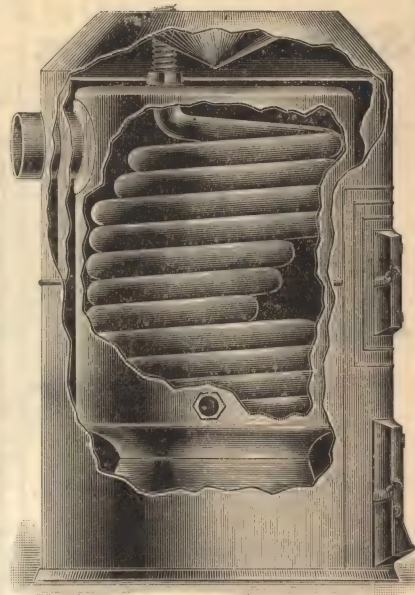
**Ranges,  
Hot-Air Furnaces,  
Fire-Place Heaters,  
Cook Stoves,  
Heating Stoves, &c.**

Write for Catalogue and Discounts.

**THE B. C. BIBB STOVE CO**  
BALTIMORE, MD.

**The Combination  
Hot Water Heater.**

THE BEST THING FOR

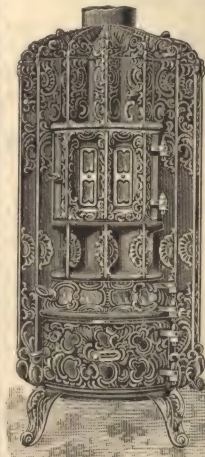
**HEATING**Houses, Stores, Conserva-  
tories and Bath Rooms by

the combination of Hot  
Air and Hot Water if de-  
sired, or Hot Water alone.

SIMPLE, PERFECTLY MADE  
AND LOW PRICED. . . .

Send for Circulars.

**THE NATIONAL PIPE BENDING CO.,**  
160 River Street,  
NEW HAVEN, - CONN.

**STOVE MEN  
ATTENTION!****FOR SALE**

AT A  
BIG BARGAIN,  
The  
Sectional  
Stove Co's  
Patterns  
and  
Follow  
Boards,  
Also the  
Patents cover-  
ing same.

ADDRESS FOR PARTICULARS

**Forest City F'd'y & Mfg. Co.**  
CLEVELAND, O.

**MICA**

**EUGENE MUNSELL & CO.**  
MINERS & IMPORTERS.  
NEW YORK. CHICAGO.  
218 WATER ST. 117 & 119 LAKE ST.

—ISAACSTEIN—"How was your hus-  
band, Mrs. Goldstein?" Mrs. Goldstein—  
"Oh, he was failing." Isaacstein—"Vell,  
never mind. You mark my words, he'll  
fail rich."—*The Yellow Book.*



The

# Plummer

BRICK SET

**Steam Heater.**

NEW MODEL.

The

# Leader

**Hot Water  
Heater**

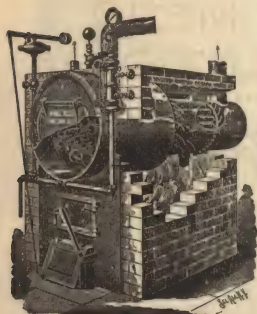
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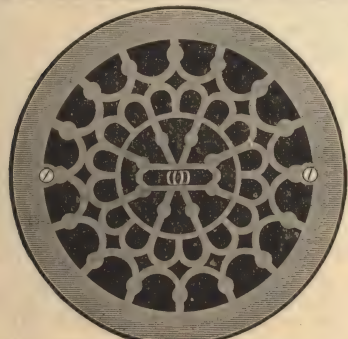
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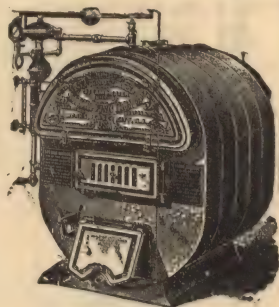
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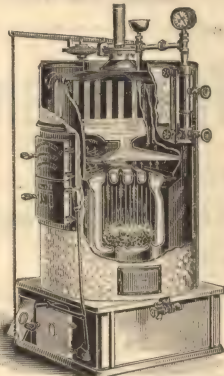
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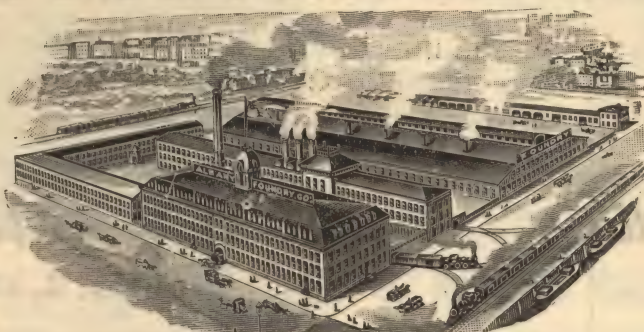
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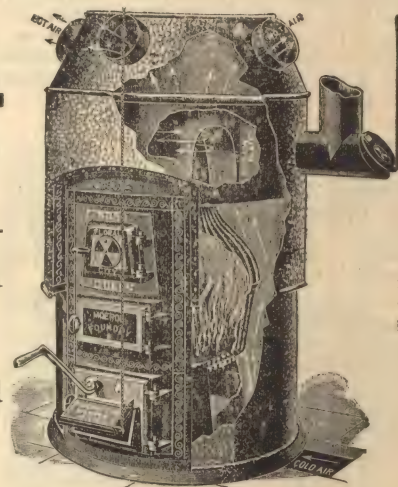
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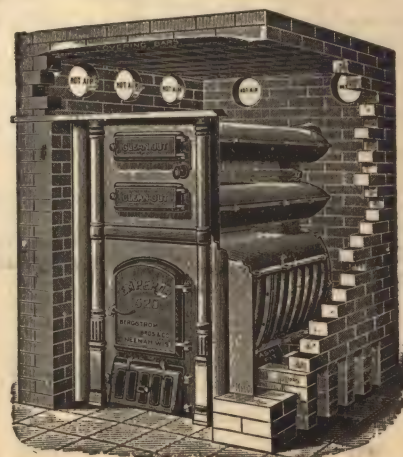
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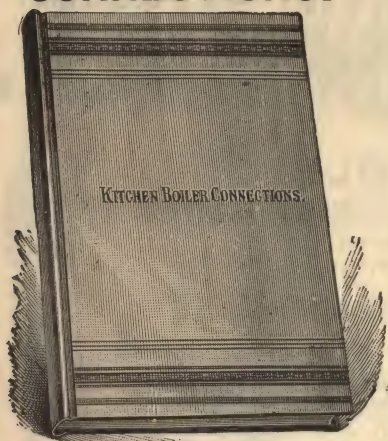
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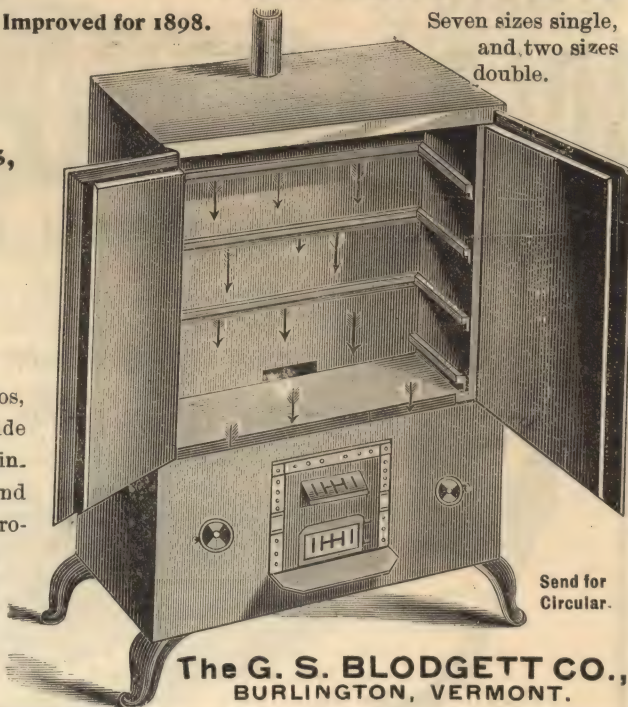
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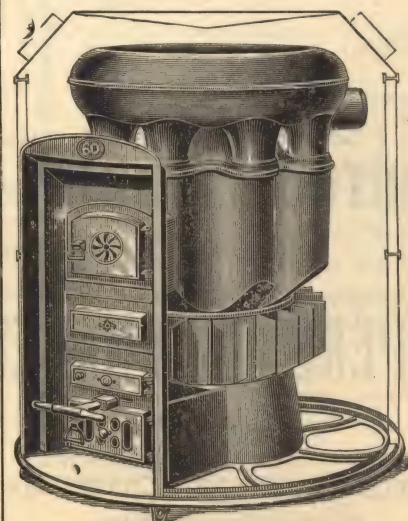
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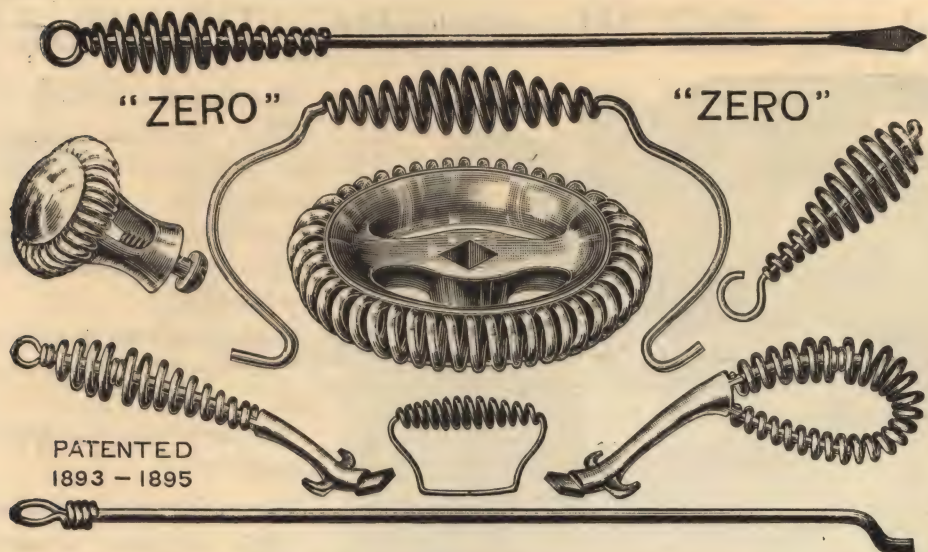
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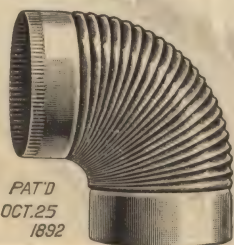
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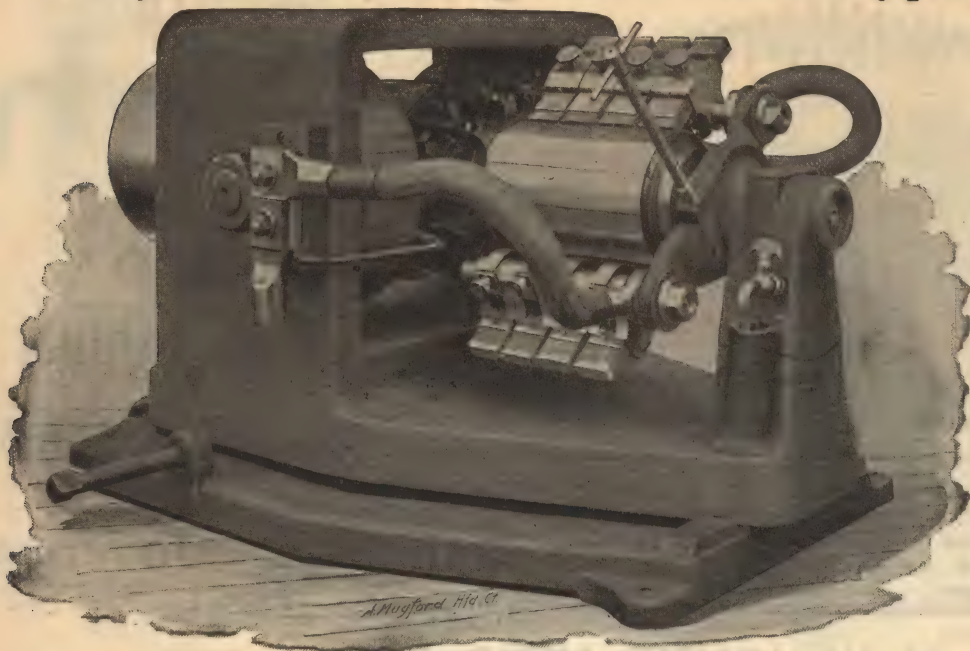
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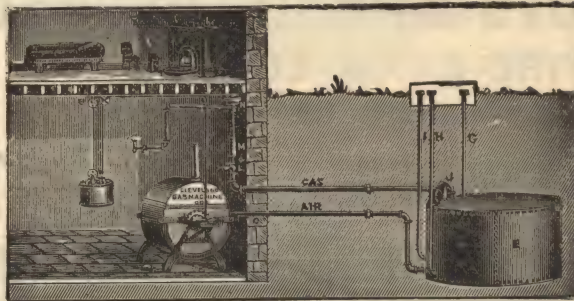
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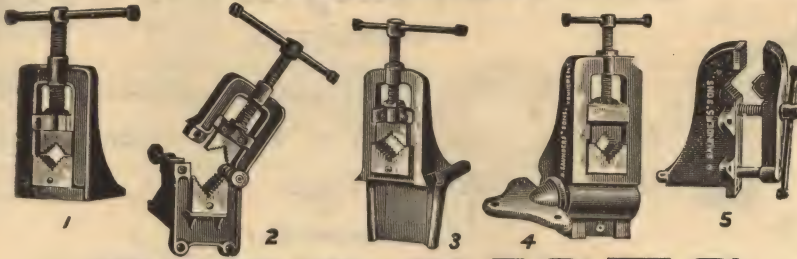
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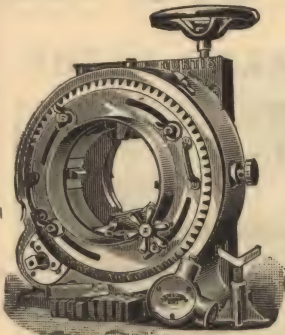
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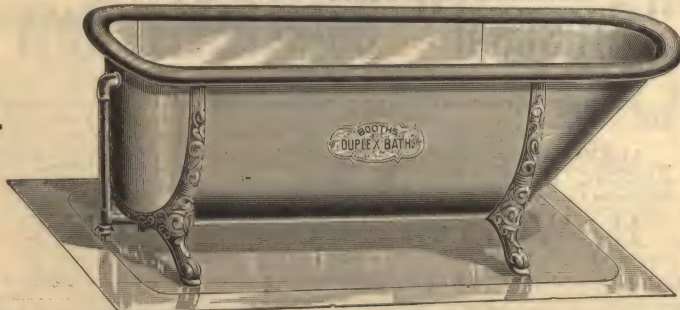
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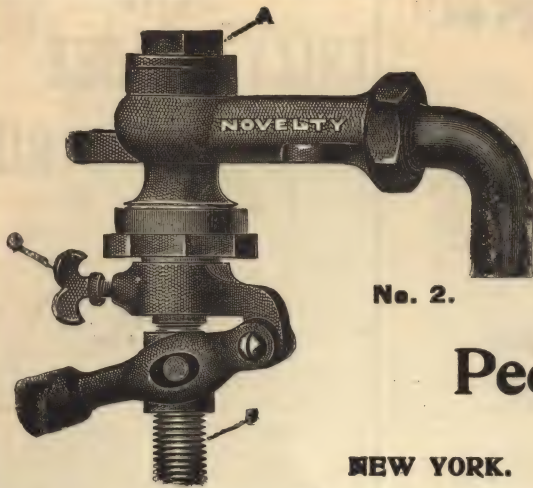
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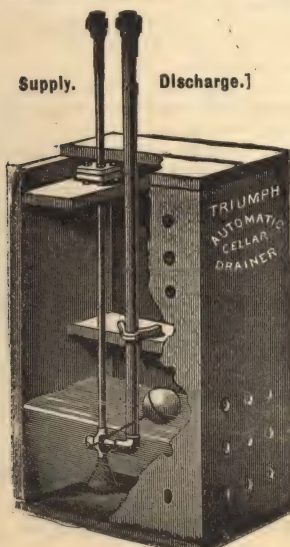
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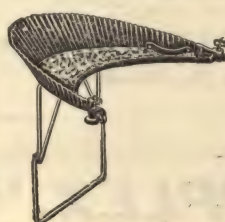
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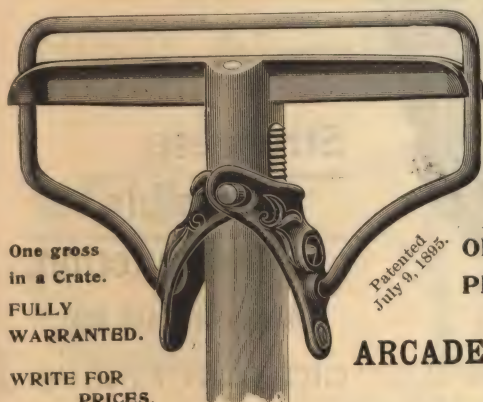


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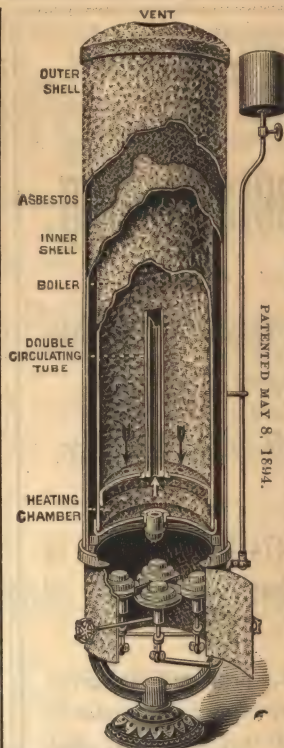
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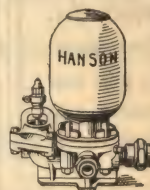
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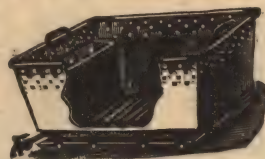
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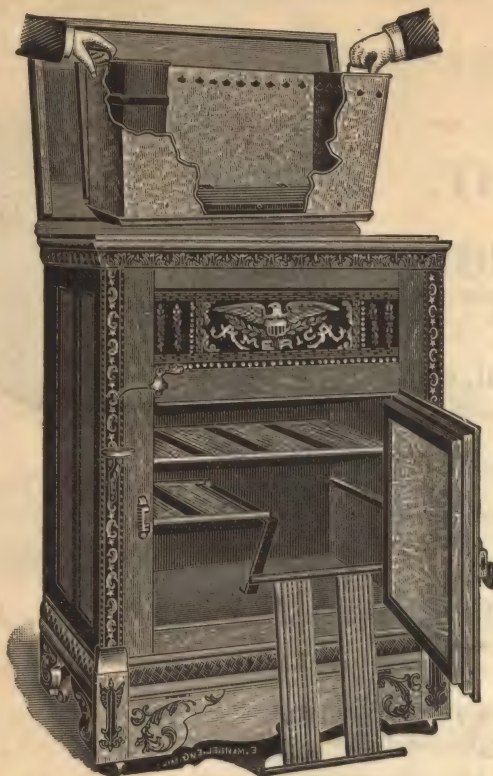
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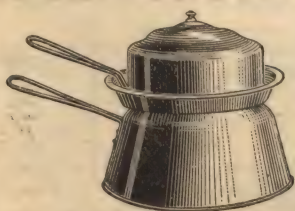
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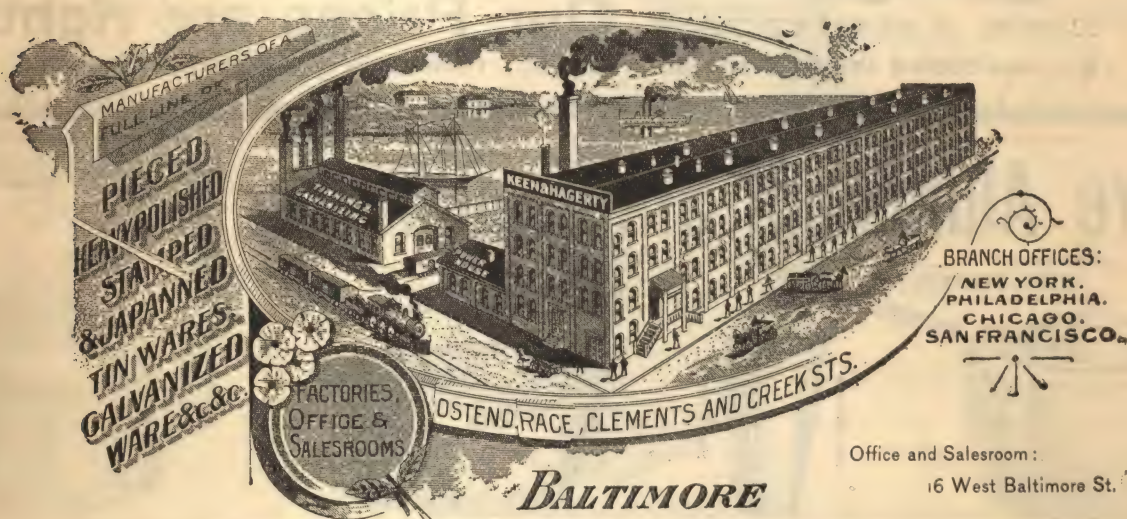


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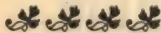
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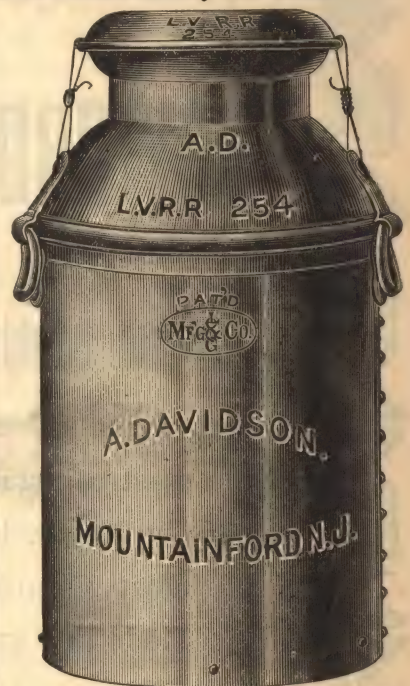
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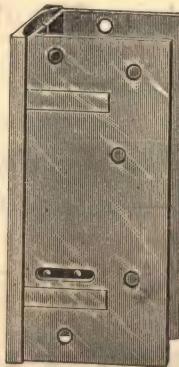
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NEW YORK AND CHICAGO.

Saturday, April 23, 1898.

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Volume XLIX ..... No. 17.  
Index to Reading Matter ..... Page 50.

## The Business Situation.

At this hour war with Spain seems as nearly a certainty as any human event, save death, can be. Nothing short of a miracle can be looked for to avert the impending conflict. Events have hurried forward with extraordinary rapidity during the past few days, and there is the utmost probability that before these lines reach the eyes of many of our readers the first hostile steps will have been taken which will plunge the two nations into an armed struggle the severity, duration and effects of which no man can foresee. That a disturbance of business will necessarily be entailed goes without saying. Already certain lines of business have been sensibly affected by the expectation of war and many projected undertakings are interrupted. The coasting trade is practically stopped, and in the Eastern commercial centers a decided depression is noted in all the markets. Speculation in the New York markets is virtually stagnant. Occasional flashes of feverish activity were seen in the stock market, but the actual volume of business was meager and the tone weak and nervous. Foreign stock markets were also more or less affected by the prospect of war. Under these circumstances it would be reasonable to expect a decided decrease in export shipments from this country. But such has not been the case so far. Our merchandise is moving out about as freely as ever, and far more freely than has been the case at this season in former years, keeping up the steadily growing foreign trade balance in favor of this country. The volume of wheat exports are surprisingly heavy, the total from both coasts for two weeks of April being 7,379,136 bushels, as against 3,057,482 bushels last year in the same period, and there is no sign of abatement in the foreign demand. Equally astonishing is the size of our corn exports, which in the same week reached 8,146,681 bushels, against 6,032,015 last year. Both cereals are strong in price with an upward tendency. Gold imports continue in large proportions, nearly \$65,000,000 having been received from abroad during the current movement of the metal. Under the circumstances the banks are well furnished for all emergencies, and will be in a position to give valuable financial aid to the Government if needed. While business in the East feels the check of impending war, reports from other sections, notably the West, still point to a remarkably active trade movement there. The influence

of approaching hostilities does not appear to have acted upon that part of the country to any great extent, as yet. The industries, as a whole, are busily engaged; mainly, however, on old orders. New orders are slow in coming in. The iron and steel trade is the most active of any of the leading industries, with a great volume of current business, a good deal of which is more or less directly connected with the war preparations. Prices all around show but little change, except copper, which made a sharp advance. Lead, on the other hand, made a decided drop during the week.

## A Model Tenement House.

On Friday, April 15, there was opened in the Borough of Brooklyn, New York, a new model tenement house which embodies a number of novelties in construction and arrangement. The building has been put up as a business venture by a local builder, John Thatcher, as the result of an investigation recently made by him during a visit to England and Scotland, in the course of which he carefully studied the recent advances in homes for the poor. The house, which is six stories high, contains apartments for ninety-six small families. It is built on a lot containing 20,400 square feet. More than half of this area is unoccupied by the structure, being devoted to light and air shafts and a large courtyard. All the hallways are lighted by windows, a feature usually absent from tenement houses in this city. Protection against fire has been provided in the most thorough manner by the use of non-combustible materials throughout the structure. The stairs are of iron and slate. In the basement is a series of spray baths, which take the place of individual bathtubs, which experience has taught tenement house owners are used for many purposes besides that intended. Hot water is supplied to all apartments from a single boiler in the cellar, springs on the faucets preventing waste. Incandescent lights illuminate the halls and staircases at night. The plumbing is exposed, and floors and walls are made impervious to water. The apartments are divided into suites of three and four. For the former \$2.40 a week is to be charged and for the latter \$2.60, the rentals being collected weekly. Mr. Thatcher is confident that his enterprise will prove a profitable investment at these charges, as the advantages offered by the house will insure the apartments being constantly occupied by decent tenants. Similar houses in London and other British centers of population have had a phenomenal success, bringing in a steady interest of from 6 to 10 per cent. on the capital invested.

## New York Building Trade Troubles.

As surely as the spring season comes around troubles arise in the building trades. Thus the announcement this week of a serious labor dispute having broken out in New York City which may cause a tie up of important building operations has no element of surprise. The present trouble is one between the Board of Walking Delegates and the Building Trades Council of New York. The former represent 42



trades unions, claiming a membership of 50,000 men. The latter, which is composed of ten unions with a membership of about 5000, was organized a few months ago as a protest against the unreasonable sympathetic strikes. It appears that eight of the ten unions in the Council are also affiliated with the Board. The Board have just issued an ultimatum to these unions ordering them to withdraw at once from the Building Trades' Council, on pain of expulsion from the Board of Walking Delegates. The unions are given two weeks to comply, and if they refuse to leave the Council their members will be treated as non-union men, and strikes will be ordered against them wherever found. What with the stoppage of work on all public buildings and improvements lately ordered by Mayor Van Wyck on the ground that the debt limit of New York City has been passed, and that there is no money available to pay for the same, and the suspension of a number of building operations on account of the war scare, the path of the contractors and employers in the building trades is not devoid of thorns and briars at the present time.

## ODDS AND ENDS.

Ex-President Crespo of Venezuela is reported to have been killed in battle with the revolutionary forces. He is the third head, or ex-head, of a Spanish-American republic who has met a violent death within the past few months. Political prominence is a perilous game in those semicivilized States. The chief of the new Cuban republic, when he is elected, will join a dangerous profession.

Although corporations, according to Sydney Smith, have no souls, there is happy and cumulative evidence in the present crisis that many of them possess patriotism. A large number of corporations and business houses throughout the country have announced their intention to keep open the places of any employees who may be called upon to serve the country in the field. Many will also continue the salaries of the enlisted men, and, further, some have promised in case of death to pay the heirs an insurance of \$1000 or more. The patriotism which opens the pocket is of a more genuine brand than that which merely emanates from the mouth.

For the sake of his artistic reputation a Dutch sculptor in Rome is said to regret having undertaken a commission for a bronze statue of President Krüger of the Transvaal, to be erected in Pretoria. The condition strictly imposed was that "Oom Paul" should be represented with absolute fidelity, the native heaviness of his form and features adorned with the frock coat and tall stove pipe hat affected by the Boer President. Moreover, the trying stipulation was added by Madame Krüger that the crown of the hat should be made concave, forming a basin to catch the rain water in which the little birds might drink and bathe. However, the artistic sense of the South African Boers, from all accounts, is not highly developed, so the statue will probably pass muster as a work of art in Pretoria.

The invaluable services rendered by earthworms in ventilating the soil for vegetation are too little recognized, although Charles Darwin devoted much study to the matter. Recently their work has been made the subject of special investigation by Professor Wollny of Munich. He finds that where the worms had been at work the yield of peas increased 25 per cent.; of beans in the pod, 69 per cent., and of potatoes, no less than 136 per cent.

The value of the policy which led to the building of such fine examples of American merchant steamships as the "St. Paul" and "St. Louis" has been proved in the present emergency. We are now able to put into commis-

sion for the naval service two armed cruisers which are from 6 to 8 knots faster than any Spanish ship that floats.

The retirement of storm doors in favor of screen doors, now in progress, is as sure a testimony of the advent of spring as the shooting leaf and the springing grass. It is now pretty safe to say that the winter has gone the way of all snow.

"Strangled by a stiff collar" was the unusual verdict of a coroner's jury in Atlanta, Ga., in the case of William De Marquies, a United States soldier, found dead in a chair at a restaurant in that city last week. It is believed that the man dropped asleep from the effects of stimulants, but the post mortem examination proved that death was caused by strangulation from pressure against the throat by a well starched high collar.

Senator Morrill of Vermont, the "Father of Congress," celebrated his eighty-eighth birthday last week in Washington. The venerable Senator was born but a few months after Gladstone, and his public life has run coeval with that of the "Grand Old Man" of Britain. He has served continuously in one or the other branch of Congress since 1855, and is still exercising his unimpaired faculties in the service of the country.

## A Trade School for Baltimore.

A movement for the establishment of a trade school in Baltimore, Md., was started last week at a meeting of master painters in the Builders' Exchange of that city. The entire meeting was devoted to the discussion of the subject of trade schools, and a committee of five was appointed to promote the formation of a school in which boys may be taught the trade of painting. It is proposed to establish the school as the nucleus for a general trade school, and the promoters hope that it may grow from a small beginning until all trades are taught there, as in the trade schools of New York, Brooklyn, Philadelphia, Boston and other cities. The committee will map out a plan for the proposed establishment, and will report at another meeting to be held shortly.

John R. Convery, the chairman of the committee, expressed himself very decidedly in regard to the urgent necessity for such a school in Baltimore. He said:

The old apprenticeship system was the only successful plan for teaching boys trades. That system having been abolished, few boys now learn trades thoroughly. Of course, apprentices are taken in the shops, but trades are not learned there nowadays. The boys are required to do something else in the shops besides learn trades. They are generally employed in running errands or collecting bills until the last year or two of their apprenticeship, when they are put to work at the trade they should have begun learning at the start. Then there are boys who imagine they know it all in a year or so and start out as journeymen. The result of all this is that first-class workmen are scarce, and they are becoming scarcer every year. A trade school would remedy this and turn out men capable of doing first-class work. We will start a school to teach painting, but we hope to have the co-operation of every one interested in the subject, so that other trades may be taught and a boy may become proficient in any trade he desires to learn. Unskilled labor is a trouble that all trades have to contend with, and a trade school will do much to do away with it.

We are indebted to the Illinois Steel Company, Chicago, for an interesting pamphlet of 40 pages, presenting an illustrated description of the mammoth works of this concern, who control one of the largest manufacturing enterprises in the world. As giving an idea of the size of the Illinois Steel Company, it may be mentioned that their authorized capital stock is \$50,000,000, of which between \$18,000,000 and \$19,000,000 has been issued. The works comprise nearly 17 blast furnaces, four Bessemer steel plants, a very large open hearth steel plant, two modern rail mills, billet mills, twin rod mills, plate mill and merchant mills. The half-tone illustrations in the pamphlet show general as well as interior views of the works, while all the separate departments are carefully described. Any one who wishes to learn about the modern practice of steel and iron making will get an excellent general idea from this little book.



# THE LETTER BOX.

## Is Brass Unhealthful for Suction Pipe?

From J. E. M., Pennsylvania.—Please inform me if a copper or brass pipe would be unhealthful used as a suction pipe to a brass lined iron pump in a drilled well 40 feet deep. The casing does not reach the water by some feet, and I don't think it is the cause of the trouble. The suction pipe, plunger rod and strainer now in use are of galvanized iron, but it rusts so much we cannot use the water. The water in the well stands in a hard blue rock with perhaps 12 feet of water at all times. We will be glad to have any help on this vexed question

**Answer.**—Brass pipe for wells is perfectly healthful if the ordinary precaution be taken of discharging the contents of the pipe and pump to waste after standing over night or for several hours. We do not recommend copper pipe; it oxidizes more readily than brass. There should be no trouble with the galvanized pipe if the water in the pipe and pump is discharged after standing for several hours. Galvanized pipe and pump rods are in almost universal use, and it is well understood that the proper practice is to pump the contents of pipe and pump to waste before using the water for drinking, cooking or washing. The principal cause of rust may come from ground water running into the well around the outside of the casing, which is probably of wrought iron and is quickly rusted by surface water passing into the well. If the casing can be made water tight where it enters the rock bore, much of the iron rust in the water may be prevented.

## Capacity of Flaring Tank.

From J. N. U., Massachusetts.—In answer to "A. S. R.," New York, whose letter appeared in *The Metal Worker* of March 19, who says he could not use the rule you gave him to find the capacity of tank 4 feet in diameter at the top, 5 feet in diameter at the bottom and 5 feet deep, I would offer the following simple rule for his assistance: Multiply the two diameters together after reducing them to inches, and to that product add one-third of the square of their difference; then multiply that product by the height in inches and then by 0.0034. Thus:  $48 \times 60 = 2880$ , to which add 48, which is one-third of the square of their difference, giving 2928. Multiply this by 60 inches, the height, which gives 175,680, and multiply this in turn by 0.0034, and we get 597,312, which is, approximately, 597  $\frac{1}{4}$  gallons. The above is the quickest method I know of, and is as near correct as any.

## Protecting Tin Against Nickeling Solution.

From W. M. C., Georgia.—I have had trouble with nickel plating a copper article that was partly tinned and the tinned surface of which I wished to keep bright. The trouble is that the nickeling solution darkens the tin, and I find it almost impossible to bring it back to its original luster. Is there any way of overcoming this difficulty?

**Answer.**—The tinned surface can be protected by thin asphalt varnish painted over the tinned part of the articles with a brush. It will protect the tin from the effect of the nickel solution. The varnish may be readily made by dissolving pure asphalt in turpentine. It can be quite thin, and will be easily washed off with turpentine after the nickel plating is done. A varnish of resin in turpentine will also protect the tin. It may be quite thin for this purpose. Paraffine is also a good and effective protection, but not so readily applied and cleaned off as a thin flowing varnish.

## Tin Composition for Casting.

From L. W., Connecticut.—Please inform me what composition of block tin will be best to use to mold a square box in two sections,  $8\frac{1}{2} \times 7\frac{1}{2} \times 3$  inches deep. I want to use as nearly pure block tin as possible. I have a brass mold, but have had a great deal of trouble with it. I would like to know the best composition to make the metal run and be bright. Also at what temperature to cast?

**Answer.**—Pure tin melts at 446 degrees F., and does not flow freely in metal molds. By adding a small percentage of lead the melting point drops and it flows sharper in the mold. With 5 parts tin to 1 part lead the melting point drops to 378 degrees. If our correspondent can afford to add bismuth to the alloy, a very fusible and sharp running casting metal may be obtained that will be as bright as tin, but will not keep its brightness quite as well. An alloy of 4 parts each of tin and lead to 1 part bismuth melts at 320 degrees F., and runs very sharp in the mold. A metal mold should be warmed to 250 degrees to make good work in casting any of these alloys; pure tin also casts better in a warm mold. If, as stated, our correspondent wishes as nearly pure tin as possible we recommend bismuth only added to the tin—say 8 parts tin to 1 part bismuth, which will lower the melting point several degrees and improve the fluidity of the tin.

## Testing Solder.

From X. Y. Z., New Jersey.—Can you tell me of a simple and at the same time reliable way to analyze solder? I find in buying solder stamped either " $\frac{1}{2}$ " and " $\frac{1}{2}$ " and "100 and 100" I am not getting what I ordered and paid for.

**Note.**—We do not know of any sure way of testing solder which would be reliable and satisfactory to our correspondent. We think if he is getting his solder under a guarantee it would be worth his while to have it analyzed by a chemist, and if he finds he has been cheated to demand damages from the house from whom he had bought the material. If any readers know of an easy way of testing solder we shall be glad to hear from them.

## Laying Tile Roofing.

From J. T. W., Ottoville, Ohio.—I am to lay a tile roof this summer, and having had no experience in this work I would like to ask some of the readers to inform me through the columns of *The Metal Worker* how to proceed in laying the valley, lapping the tiles and cementing them in the valley, and what kind of cement to use. Also what is the best way to cut the tile?

**Answer.**—To commence with, a tile roof is started with what is known as closed end tiles, after which the succeeding tiles are laid, lapped as much as called for in the specification, which is usually  $2\frac{1}{2}$  to 3 inches, or as much as the different makers allow for their special goods. When laying the valley, in some cases there is used what are known as valley tiles; these are tiles which have been specially made to fit the pitch and angle of the valley, and are lapped the same as the tile used, so as to have straight courses. They are laid in what is known as roofers' cement or paintskin, care being taken to obtain the cement of the color to match the shade of tiles used. Under no circumstances use Portland or other cement, which breaks and cracks under the heat of the sun when laid between the tiles. When there are no special valley tiles made the valleys should be laid of copper lapping about



7 inches on each side, with a water lock of  $\frac{1}{2}$  inch folded on each side; then over this 7-inch flange the tiles are laid, laying them close if desired or with an open valley of 3 or 4 inches. Around the eaves, hips, valley and ridges the tiles should be laid in roofers' cement or paintskin for a distance of about 2 feet wide, as at these places leaks are more liable to occur than in the middle of the roof. When cutting the tiles the usual way is to use a hammer and sharp chisel, cut a slight groove, and break by tapping with the hammer on the opposite side. There are, however, tools known as tile cutters, being in shape like a large shears, the jaws of which crush and cut the tiles as desired. When the tiles are baked hard there is quite a loss in cutting, owing to their brittleness. The hard tiles while being more difficult to cut make a better roof, as they absorb less water and have less tendency to disintegrate than the softer tiles. If there are special tiles, made by a certain firm, it will be well for our correspondent to write to them, as they may give special instruction for laying. Our correspondent does not state whether he has a shingle tile or Spanish tile roof to lay, but the difference in laying is so slight that the above answer applies to both tiles.

### Power of Centrifugal Pump.

From F. E. A., Shawneetown, Ill.—In your article on the power of centrifugal pump in *The Metal Worker* of February 12 you say the suction pipe should be 24 inches in diameter. It is contended that a pipe 20 inches in diameter would do as well, and would a reduction of 4 inches in so large a pipe make any difference in the output of water?

Answer.—If the lift is small, say 4 to 6 feet, the 20-inch pipe for the suction will make but little difference in the flow; if the force pipe is 18 inches, possibly a little more power may be required for the maximum output of the pump.

### Wants to Clean Copper Cornices.

From Cornice Man, Missouri.—I should like to learn of a solution to clean planished copper. I have made a copper bay window, and have cleaned it with dilute vinegar and muriatic acid, which has left it with such a variation in color that I will have to go over it again with something better, and, thinking that some of the readers of *The Metal Worker* would be able to assist me, I have entered my appeal in the Letter Box.

### Gas Heated Soldering Copper.

From Astor.—In reply to K., Erie, Pa., whose inquiry appeared in *The Metal Worker* of April 16 respecting gas heated soldering copper, I beg to advise him that such a soldering copper may be obtained in England, where it is manufactured by Fletcher, Russell & Co., Warrington, and I believe costs about \$1.75. I do not know of any maker in this country. In England there is also obtainable a very useful soldering copper for use with benzoline, the liquid being contained in the handle. This tool is rather heavy, weighing over  $3\frac{1}{2}$  pounds, but it is very convenient in roofing work. The cost of the benzoline copper is \$3.60.

### Hot Water from Cold Faucet.

From McC. C. Davidson, Hanover, Pa.—A query appears in *The Metal Worker* of April 9 from "W. C. T.," in reference to an illustration which shows the method of piping generally adopted for domestic hot water supply. The trouble encountered is rather unusual and perhaps has never occurred within the experience of the inquirer. However mysterious and mystifying may be the results obtained from certain jobs, yet they are all simple when understood. In glancing over the sketch there seems to be nothing at fault except the circulation pipe, which is marked  $\frac{1}{2}$  inch, which may be a typographical error. This, however, could not cause the trouble the correspondent speaks of. If the water in the boiler becomes quickly

expanded, caused by an excessively large water back, the pressure would be relieved by backing through the cold water pipe toward street main, causing the pipe to become hot at the faucet before it is opened. The radiation from this pipe would cool the water very rapidly, and thus the pipe would become cold unless the expansion continued, which would indicate excessive heating surface and a menacing danger. If the pipe is hot before the faucet is opened, it is caused by expansion, but it is not expansion which permits the hot water to flow through the faucet for a minute or more, as stated by the correspondent, unless it has backed a considerable distance toward the street main. This can readily be ascertained before the faucet is opened. We must look beyond this for a solution. The only way for hot water to get to the faucet is from the boiler. If the water in the boiler flows toward this faucet, it is caused by a lack of pressure on the street side, being insufficient to prevent the water coming from the boiler. This condition would exist if the cold water pipe were partly closed by some obstruction, thus giving the faucet a greater capacity than is possible to be supplied by the feed pipe. In that case a certain amount of water would be siphoned from the boiler. The correspondent states that the siphon hole is in the proper place, but the sketch gives the impression that it may be down 6 inches from the top of the boiler. If that is correct a system under the conditions which I have explained would act just as he states. The vent is placed in the pipe to prevent the siphoning, and is not intended to permit any water to leave the boiler, hence the necessity of putting it immediately under the head. The vent can be tested without taking out the pipe by turning off the supply and opening the spigot. If a larger quantity of water runs out than is contained in the pipes the vent should be changed. I trust that this will throw some light on the subject.

### Is the Chimney or Boiler at Fault?

From E. C. W., Orange, N. J.—If "H. C.," who inquires in *The Metal Worker* of April 16 whether the boiler or chimney is at fault, will try a 10-inch smoke pipe, or perhaps a 9-inch would serve, put up in its place he could demonstrate the power of the boiler. The present smoke pipe is altogether wrong. Radiating surface is rather low, as also is the size of the piping, yet the good smoke pipe may cure the trouble.

### New Publications.

MACHINISTS' AND ENGINEERS' POCKET MANUAL. By D. B. Dixon. Published by Laird & Lee. Price, \$1.

An enumeration of the contents may suffice to indicate the scope of the volume before us, which is one of the few pocket books which a reasonable person may be expected to carry about with him, the more ambitious sinning gravely in the matter of size. About one-third of the book is taken by a dictionary of terms used in steam engineering and in electricity. Mathematical tables occupy a further number of pages. There are chapters on how to connect dynamos and motors, on refrigeration and ice making, questions and answers for applicants for stationary engineer's license, on gear practice and on indicator practice.

### Utilization of Wave Power.

According to the *Railway and Engineering Review*, an English syndicate are developing an electrically lighted buoy in which the current for the lamp is generated by a dynamo within the buoy driven by a wave power hydraulic engine. Practical trials have been conducted and tests have been made with the device in the open sea. The buoy itself is an ordinary pear shaped steel shell, having in its center a vertical steel tube forming the stuffing box of a heavy plunger, the lower end of which is fastened to the anchorage. An arm attached to the top of the plunger drives the piston rod of a double acting pump which forces water into an air tight reservoir, from which it is delivered to a Pelton wheel coupled to a small dynamo in the upper portion of buoy. The buoy is 6 feet in diameter and will develop about 5 horse power on ordinary wave motion. The lamp is 50 candle power.



SHEET METAL WORK.

Pattern for Frustum of Cones of Small Taper.

A correspondent from Cincinnati, Ohio, asks for a method of obtaining the pattern of a frustum of a cone that would have such a small taper that it would reach too far to use a center. The case in mind is a tank 16 feet high, built up of five frustums, the bottom of the tank being 8 feet and the top 7 feet in diameter, and made of  $\frac{1}{4}$  inch steel. This is shown in Fig. 1, in which the height of the frustum is divided into five parts, or as many parts as are desired, thereby giving each frustum a height of 3 feet  $2\frac{3}{8}$  inches. For the diameter of the various frustums

is shown in Fig. 2, in which A B C D is the elevation of a frustum, E F G H the plan view of the bottom and I J K L the plan view of the top. Assuming that the frustum is to be made in four sections, divide the one-quarter plan E F and K J into equal parts, as shown by the small figures. Draw a dotted line from E to 8 in plan. Take the distance 8 E and place it as shown from 8' to E' in elevation and draw a line from E' to A'. Then will A' E' represent the actual distance on the finished article on the line E 8 in plan and A D the distance on the line E J in plan.

For the pattern proceed as follows : Draw any vertical line, J E in Fig. 3, equal to A D of Fig. 2. Now with J 8

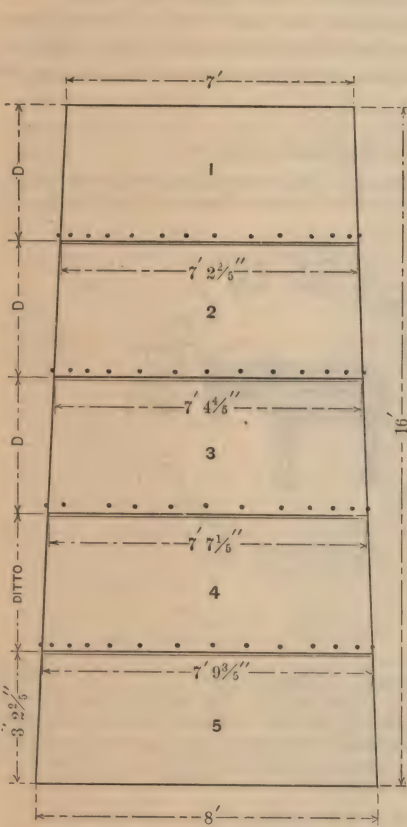


Fig. 1.—Diagram for Obtaining Dimensions of Each Section.

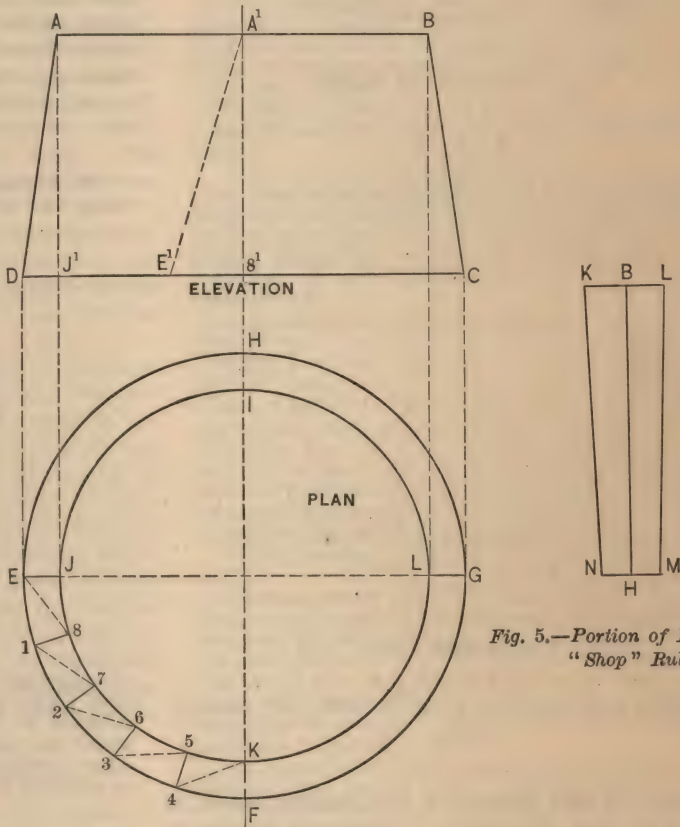


Fig. 2.—Plan and Elevation.

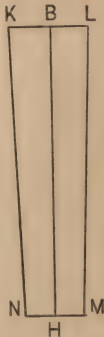


Fig. 5.—Portion of Pattern by "Shop" Rule

PATTERN FOR FRUSTUM OF CONES OF SMALL TAPER

the following rule is applicable to any size cone. Deduct the width of the narrow end from the wider end of cone, and divide into the remainder the number of sections employed ; thus in the present case, deduct 7 feet from 8 feet, equals 1 foot, or 12 inches; divide the number of sections employed, 5, into 12, equals 2  $\frac{3}{8}$  inches. Now commencing at the narrow end, or 7 feet, add 2  $\frac{3}{8}$  inches to each succeeding section, making the diameter of the bottom of first section 7 feet 2  $\frac{3}{8}$  inches; now again add 2  $\frac{3}{8}$  inches, making the diameter of the bottom of the second section 7 feet 4  $\frac{1}{8}$  inches, that of the third section 7 feet 7  $\frac{1}{8}$  inches, and so on until 8 feet has been obtained. In considering these dimensions due allowance must be made for the thickness of the material used.

Having the heights of the sections and their diameters at top and bottom, a simple rule giving accurate patterns

as radius and J of Fig. 3 as center describe the arcs 8 and 8. Now with A' E' of Fig. 2 as radius and E of Fig. 3 as center describe arcs intersecting 8 and 8. Then, using E 1 of Fig. 2 as radius and E of Fig. 3 as center, describe arcs 1 and 1, which intersect by arcs struck from 8 and 8 as centers and A D of Fig. 2 as radius. Trace a line through points thus obtained in Fig. 3, as shown by 8 J 8 1 E 1, which will give the patterns of two sections. As five sections are required to complete the quarter pattern add as many sections to the pattern, as shown, which will constitute the quarter pattern. Allowance should be made for seams for riveting. Care should be taken to slightly contract the upper part of the section to allow the bottom of the next section to slip over it for riveting. In Figs. 4 and 5 is shown a very simple "shop rule," which will answer all practical purposes, but is not strictly ac-



curate. Let A B C D of Fig. 4 be the plan of the wide end of the frustum and E F H J the plan of the narrow end, both struck from the center O. Draw any line, as B H O; step off any convenient spaces, as K and L, from which points draw line to the center O, as shown, cutting the inner circle at M and N. Now, knowing the slant height of the frustum, draw any vertical line, B H in Fig. 5, equal to the slant height of the article. Through B and H draw lines at right angles to B H, as shown, making B K and B L equal to B K and B L of Fig. 4 and H M and H N of Fig. 5 equal to H M and H N of Fig. 4. Draw a line from K to N and L to M, in Fig. 5, which completes

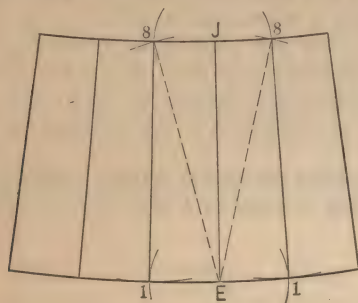


Fig. 3.—One-Quarter of Pattern.

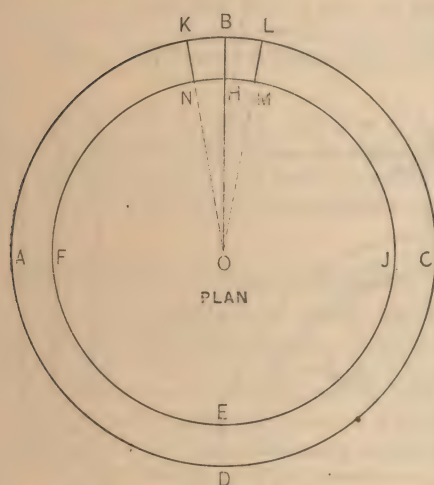


Fig. 4.—Plan Showing "Shop" Rule.

#### PATTERN FOR FRUSTUM OF CONES OF SMALL TAPER.

the pattern for that portion of the frustum shown in plan in Fig. 4 by K L M N. A sufficient number of pieces shown in Fig. 5 can be placed side by side to constitute a pattern of any length desired.

#### Architectural Metal Work.

We are indebted to the Art Metal Relief Company, Covington, Ky., for an early copy of the illustrated catalogue which they have just received from the press. It is a large volume, measuring  $9\frac{1}{2} \times 12$  inches in size, bound in colored enameled paper and contains over 80 pages of illustrations. The work done by this concern covers a wide variety of architectural metal work, and the illustrations present an assortment from which the most fastidious sheet metal worker can make a satisfactory selection.

The first illustration in the book, which is printed in silver and gold bronze, shows Weitzel's polygon conductor; next come conductor pipe heads, shoes and gargoyles, spun work, finials, bases, urns, cornices, belt courses, moldings, crestings, ridge, hip and deck moldings and enrichments, moldings, bead, leaf, &c.; shells, panels and gable ornaments, wreaths, knobs and finial tops, points, drops and scrolls, rosettes, ventilators, animal heads, flag staff ornaments and emblems, fountains, mo-

dillions, brackets, crockets, capitals and miscellaneous goods, the whole of which are indexed in the last two pages. In a prefatory note addressed to architects and the trade they call attention to their spun work and stamped ornaments, and allude particularly to the Weitzel polygon conductor. All the goods enumerated are illustrated in many different styles and sizes, and reference numbers for ordering are given, together with prices.

#### Meeting of Sheet Manufacturers.

The last meeting of the Iron and Steel Sheet Manufacturers' Association before the settlement of the annual wage scales was held at the Conestoga Building, Pittsburgh, on Tuesday, April 19. The manufacturers discussed the changes in the wage lists that they desire. The sentiment in the trade seems to be favorable to a continuance of the prevailing rates. The manufacturers will make some arrangements to have proposed changes in the scale formulated and presented to the Amalgamated Association as a guide in the compilation of the Amalgamated scales. The sheet trade is reported to be in very fair shape. The volume of business is greater than it was last year. Prices, however, are somewhat lower. It is not considered likely that the war with Spain will have much effect on the sheet market, as most of the mills are believed to have orders enough to keep them running for several months yet.

#### Trade-Mark Button.

We illustrate herewith the trade-mark button which is being sent out to the trade by the Kansas City Roofing &



Trade-Mark Button.

Corrugating Company, Kansas City, Mo. The Donkey roof paint, which is prominently displayed on the button referred to, was placed on the market by this company about one year since, and they advise us their sales of this paint continue to increase, and that they are shipping it to all parts of the country.

#### FLASHINGS.

The Canton Rolling Mill Company, Canton, Ohio, have decided to add two 24-inch Sheet mills to their plant.

The quarries of the Albemarle Slate Company, located near Charlottesville, Va., which have been idle for some time, will be reopened and put in operation at once, having been leased by M. Kauffman, a local capitalist, who is putting in modern equipments.

The copartnership heretofore existing between Charles F. Hill and John A. McGinty under the firm name of Hill & McGinty, coppersmiths and sheet metal workers, at 20 and 22 Pitts street, Boston, was dissolved by mutual consent April 1, 1898. The business will hereafter be conducted by Charles F. Hill.

J. L. Perkins & Co., dealers in Tinnerns, Cornicemakers and Roofers' Supplies, Metal Ceilings, Tin Plate, &c., who have for a long time been located at 243 Lake street, Chicago, will move May 1 into the adjoining building on the east, 241, securing enlarged facilities to accommodate their increasing business.

The White Star Line steamer "Bovic," which sailed for New York from Liverpool on Saturday last, has on board a large consignment of Lee-Metford rifles, 10 Maxim guns, 50 Krupp quick firing guns and 200 tons of ammunition, all supposedly for the United States Government.



# HEATING AND PLUMBING.

## National Association of Master Plumbers.

### TENTH ANNUAL CONVENTION.

San Antonio, Texas, Thursday, April 14.

The convention met for the second day on Thursday morning at 10 o'clock, with President Culleton in the chair, the first business being a presentation of a supplementary report by the Credential Committee, which was adopted.

Robert Thoroughgood of Chicago read an essay on "Sanitary Science" to the convention, which was received with close attention. In it was discussed the importance of complete and perfect public sewerage and drainage systems and household drainage and toilet systems. It advocated as the greatest of all public necessities a sufficient and well managed supply of pure water. The author was thanked and the paper referred to the proper committee.

Following this paper a congratulatory telegram from the Denver association was read to the convention; also a communication from William Smith relative to his claim in regard to a siphon jet closet, which was referred to the incoming Executive Committee.

The report on legislation was presented by its chairman, J. B. Bitterworth of San Francisco, and adopted. This report, which was quite a voluminous document, advocated the necessity of National, State and Municipal legislation favorable to the securing and enforcement of regulations through which the necessary sanitary safeguards connected with plumbing should be secured not only to the domestic establishments of the country but in connection with all public buildings and works. It also suggested a number of reforms and urged that the National Association spare no pains to fully inform all officials charged with the management of the legislative as well as other branches of the Government and thoroughly enlighten them as to the needs of the people and the character of laws desired to be enacted.

#### THE REPORT OF THE SPECIAL COMMITTEE.

The Special Committee appointed on Wednesday to consider the various amendments and recommendations reported as follows:

On the first one, "That members of the association shall not put in place any plumbing material which they do not furnish," we recommend be adopted.

On the second, to amend article 17 of the by-laws, "It shall be entirely discretionary with the president of the National Association as to what money shall be expended for organization work in the different States," we recommend for your adoption.

On the third one, as to amending the rule relating to outside work, page 12 of the recapitulation pamphlet, as follows: "Members in doing work in other cities than their own are bound to respect the rules governing work in such cities and as near as possible to the approval of such associations." The foregoing is the resolution as it will read when adopted, and we recommend it be so adopted.

As to the fourth one, as follows, your committee recommends for adoption:

"That the convention reconsider the action of the Cincinnati convention which allowed members receiving letters of patent on plumbing appliances of their own invention to manufacture or cause to be manufactured and sell same at wholesale and retail without classing them as wholesale dealers, and that the following rules be established in place thereof:

"In the future all members of the National Association causing to be manufactured, or themselves manufactur-

ing and selling, plumbing appliances of their own invention, be required to sell their goods through the legitimate jobbers who are in accord with the Baltimore resolutions.

"That no inventor and member who manufactures or causes to be manufactured, and who sells such manufactured inventions to the plumbing trade direct, shall be allowed to sign the Baltimore resolutions without first withdrawing from the association, giving up the plumbing business and going into the manufacturing and jobbing business.

"That any inventor who acts as a manufacturer and dealer and does not sign the Baltimore resolutions, or who carries on the plumbing business in connection with his manufacturing and does not dispose of such manufactured goods through the regular jobbers, shall not be considered in accord with the National Association."

Your committee recommend that the whole of page 13 of the recapitulation pamphlet be stricken out, with the exception of that part relating to notices, and that part remain as it is, that is: "That associations have no right to send out notices regarding supply houses to others than their own members."

We do not concur in the amendments proposed by the Trans-Mississippi League and Chicago Association, as follows:

"The national convention shall consist of representatives from State associations, one for every 25 members or fractional part thereof where such associations exist, who shall be elected at or before the first meeting of the month during which the convention is held each year. The president of each State association to be a delegate *ex officio*."

Amend article 4 of the constitution by striking out the word "ten" in second line and inserting the word "twenty" where association exceeds a membership of fifty in place thereof. But recommend that the first clause of article 4 be amended to read thus: "The national convention shall consist of representatives from local associations, one for every twenty members or fractional part thereof, and that delegates shall be elected one month previous to the holding of the national conventions." In a nutshell this changes our representation to one for every twenty instead of, as at present, one for every ten.

The following resolution your committee does not concur in:

"The secretary of all local associations shall report to the national secretary the names of all members who are members of their association December 31 of each year, and shall pay thereon to the national secretary a capitation tax of \$1.50, payable one-half in July and one-half in January. This shall apply to associations having a membership of 50 or over." But in the place thereof recommend the following:

"The secretary of all local associations and State associations shall report to the national secretary the names of all members who are in good standing in their associations December 31 of each year, and shall pay thereon to the national secretary a capitation tax of \$2, payable one-half in July and one-half in January."

We concur in the recommendation to amend article 4 to make it article 16.

The report of the committee was referred to the executive session.

The convention then went into executive session, after which it adjourned until 2 o'clock p.m.

#### THURSDAY AFTERNOON.

The convention did not meet until 3.30 o'clock, and when it did reconvene it went immediately into executive session which lasted four hours. Various matters were considered in executive session, including the president's report and that of the Executive Committee, the former being referred to a special committee, while the Executive Committee's report was adopted so far as it could be without conflicting with action already taken on amendments to the constitution. The convention adjourned in executive session, to meet at 9 o'clock Friday morning.

#### FRIDAY.

The convention was not called to order until 10.30 o'clock, when the Committee of the Whole presented its



report on matters which had been discussed in the executive sessions. It indorsed all the amendments to the constitution, by-laws and rules as recommended and the indorsement was adopted by the convention.

The Committee on Apprenticeship reported, recommending that no apprentice except those now engaged be employed for the next five years by the members of the association, giving as the reason for this recommendation that the country was overrun with plumbers who had gotten into the ranks through the wholesale and indiscriminate practice of employing apprentices. The report was adopted.

The Resolutions Committee presented a report in which it made various recommendations concerning the different resolutions referred to it. The one recommending that supply dealers be instructed by the association not to bid on any work or any plumbing jobs of any character was adopted.

It recommended nonconcurrence in the definition of the master plumber given by the Baltimore convention, which definition is as follows:

"A master plumber is one who has an established place of business, as the proprietorship of a shop or store with plumbing material visible to the public, cards advertising the fact to the public, and a sign for the same purpose; one who thus represents the industry of plumbing by dealing in plumbing goods when placing in the same and doing work for the general public, and has a license from the proper authorities to do plumbing work if such license is required.

"Janitors or engineers in buildings, though they may be practical and have a license, employed by the owners or agents to do work on the respective premises, even if they have a so-called shop and sign, are not master plumbers, as they do not work for the public, but merely qualify to buy material for their employers.

"Journeymen employed by general contractors, though the former may have shops and licenses, are not master plumbers, inasmuch as they do not work for the public by taking contracts and supplying materials. They are simply qualifying to a certain extent in order to secure goods and evade the spirit of the Baltimore resolutions."

This recommendation of nonconcurrence was adopted.

The report recommended the adoption of the suggestion of the Indiana Association and its resolution for the appointment of a national organizer to supersede the State vice-president in the work of organizing. This recommendation was also adopted.

The special committee to whom in executive session the annual report of the president was referred recommended its adoption as revised by the committee.

After a vote of thanks had been tendered the president the regular business was resumed.

Charles Polachek of Milwaukee moved that the next directory issued under the authority or sanction of the association should contain on the list of plumbers none whose names are not on the list of members of the association. This motion occasioned considerable and lengthy debate, but finally prevailed.

The reports of the vice-presidents of the various States concerning the work done by them as organizers and by the State associations were presented. Twenty-three of the State vice-presidents had reported and all of the reports showed the affairs of the various State associations to be flourishing.

The convention then gave its attention to the selection of the next place of meeting and the advantages of New Orleans were ably set forth by Charles H. Hartwell, while his efforts were seconded by Edward Braden of San Antonio, P. H. Wynne of Boston and John Yule of New York. So strong was the feeling in favor of New Orleans that those who had intended to recommend Minneapolis and Indianapolis concluded to make no attempt in favor of those cities, and so New Orleans was unanimously chosen as the next meeting place. After this the convention took a recess until the afternoon.

## FRIDAY AFTERNOON.

The convention was called to order at 3 o'clock, when the president explained that there had been considerable delay occasioned by the fact that the secretary and treasurer had not been able to close their accounts because of receiving money during the sessions of the convention. At his suggestion an amendment was offered to the effect that the fiscal year should end the first day of the month preceding the holding of the annual convention, so that the accounts might be ready for presentation. This amendment was laid over under the rules.

The report of the treasurer showed receipts amounting to \$13,088.57, disbursements \$8183.58, leaving a balance of \$4904.99. The subject of the time of the next convention being taken up, it was suggested to the Executive Committee, who have sole voice in the matter, that it would be well to convene at New Orleans just before the Mardi Gras festivities.

Proceeding to the election of officers, the names presented for president were Edward Braden, Jr., of San Antonio and S. M. Malcolm of New York, resulting in the election of Mr. Malcolm, and the choice was made unanimous on Mr. Braden's motion. President Malcolm, after a brief speech thanking the convention, announced that he had selected A. H. Brown of New York as secretary and the convention confirmed the choice. P. M. Murphy of Chicago was elected first vice-president and William E. Goodman was re-elected treasurer.

The following State vice-presidents were then elected:

*Minnesota*, Allan Black.  
*Florida*, John Einig.  
*Georgia*, F. J. O'Brien.  
*Illinois*, Charles T. Byrne.  
*Pennsylvania*, Frank P. Blythe.  
*Colorado*, Thomas J. White.  
*Indiana*, George Kirkhoff.  
*Wisconsin*, C. Polachek.  
*Southern California*, George Schneider.  
*Arkansas*, August Reichart.  
*Northern California*, C. W. Iredale.  
*Michigan*, James Portland.  
*New Mexico*, Thomas Hudson.  
*Delaware*, Thomas H. Biscoe.  
*Alabama*, Daniel A. Farrell.  
*Missouri*, M. J. Ward.  
*Maryland*, Charles H. Frederick.  
*Texas*, A. H. Shafer.  
*Tennessee*, John Lang.  
*Ohio*, L. Poplowsky.  
*New York*, Jonas A. Rossman.  
*Iowa*, Henry Dunker.  
*Connecticut*, S. E. Dibble.  
*Louisiana*, L. Luterbach.  
*Massachusetts*, O. S. Kendall.

The following new Executive Committee was announced: Hubert Kelly of Minneapolis, John Mitchell of New York, W. H. Doyle of Pennsylvania, John Traynor of Baltimore, J. L. E. Firmin of San Francisco, Jeremiah Sheehan of St. Louis, James Meathe of Detroit, Edward C. Kelley of Boston, Edward Braden of San Antonio, James M. Healey of Minneapolis.

The convention then adopted a vote of thanks to the people of San Antonio and the local association for their hospitality and the enjoyment furnished the members of the convention and their families. The convention also thanked the retiring officers and the press.

T. C. Boyd of Chicago and Jeremiah Sheehan of St. Louis were selected to secure a suitable testimonial to be presented to the retiring president.

The convention then adjourned.

We have received from the Richmond Stove Company, Norwich, Conn., a memorandum pad at the top of which is a lithographed letter head which is reduced in size from their regular letter head. At one side is the address of the works at Norwich, Conn., and at the other the address of the New York office at 85 Centre street. The word "Richmond" is underscored with a red line, and refers to Steam and Hot Water Heaters, Furnaces, Ranges and Stoves.



## THE SOUTHERN LEAGUE.

The annual convention of the Southern League of Master Plumbers was held in San Antonio, Texas, on April 12 and was opened by the president, Ed. Braden, Jr., San Antonio, with a brief address. He congratulated the league on having passed through the experimental stage and the probationary period and having arrived at a period when it had reached a stable and progressive basis. He was proud too, to say that its principles had been adopted by the New England and other leagues, and that it was in complete unison and accord with all of the other leagues in the nation. Among those present were:

Wm. G. Schuwirth, San Antonio, Texas.  
 Daniel A. Farrel, Anniston, Ala.  
 T. J. Mooney, Chattanooga, Tenn.  
 C. A. Hartwell, L. Luderbach and W. T. Flood, New Orleans, La.  
 J. Anderson, Jackson, Tenn.  
 T. J. Young, S. D. Copeland, Mobile, Ala.  
 D. F. Sullivan, Dallas, Texas.  
 T. J. Cody, Columbus, Miss.  
 H. A. McQuade, Chattanooga, Tenn.  
 John Lang, Memphis, Tenn.  
 T. J. Maddern, Sherman, Texas.  
 J. E. Michael, Talladega, Ala.  
 W. H. Matlach, Louisville, Ky.

In discussing the educational plan and platform, John L. E. Firmin, San Francisco, Cal., who was invited to speak, said he was an earnest advocate of the enlightenment of the legislative, national, State and municipal officials in connection with scientific sanitation, and especially that branch of it relating to plumbing.

John Hickman, Paterson, N. J., member of the National Executive Committee, in his remarks was full of reminiscent anecdotes connected with the plumber of olden times. He concluded his remarks by the statement that he was glad that at last the medical world had acknowledged the importance of scientific sanitary plumbing.

The convention adopted the educational and open meeting plan, discarding the old executive session system in vogue at former sessions, and urged the National Association, which was to meet the next day, to establish a bureau for the dissemination of literature bearing on the subject of scientific and sanitary household and public plumbing.

It also adopted what are known as the Nashville resolutions, looking to the harmonizing of relations between members of the plumbing fraternity and dealers in supplies. The resolutions called on the Supply Association to discipline recalcitrant supply firms.

It adopted a resolution in reference to quarantine, calling on all national, State and municipal legislative officers to urge the thorough cleaning up of all cities and premises that had ever been visited by contagious fever, urging the immediate construction of efficient sewer systems where such are not already in operation, and the establishment of perfectly sanitary household connections there.

A balance in the treasury was shown by the official report.

D. F. Sullivan moved the appointment of a committee of five on resolutions to which resolutions at future sessions should be referred so as to suppress any that might be of an anarchistic or fire brand nature. The resolution prevailed. The routine business of the convention having been transacted the following officers were elected:

*President*, Daniel A. Farrel, Anniston, Ala.  
*Vice-President*, Charles A. Hartwell, New Orleans, La.  
*Secretary*, H. A. McQuade, Chattanooga, Tenn.  
*Treasurer*, T. J. Cody, Columbus, Miss.  
*Sergeant-at-Arms*, John Lang, Memphis, Tenn.

New Orleans was selected as the place for holding the next convention.

The Roberts Machine Company, Collegeville, Pa., have got out a unique trade-mark for use in connection with their line of Steam and Hot Water Heating Appara-

tus. It consists of a tripod supporting a kettle over a fire. Above the kettle are the words "Steam and Hot Water," and below it "We get out all there is in it."

## TEXAS MASTER PLUMBERS.

The annual convention of the Texas State Association of Master Plumbers was opened in San Antonio, Texas, April 11, by President Jonathan Bowman with a brief address, after which he appointed the following Committee on Credentials: D. F. Sullivan of Dallas, J. F. Osbourne of Fort Worth and E. A. Keithley of Houston. The secretary, Edward Braden, Jr., was added to the committee. On roll call of delegates the following answered:

D. F. Sullivan, W. Donovan and S. E. Carroll of Dallas.  
 J. F. Osbourne, J. A. Rogers and W. P. Harrison of Fort Worth.

Paul Keithley, David Woodhead and R. B. Morris of Houston.

D. T. May, Paul Shean and Thomas Kirk of Galveston.  
 F. S. Brooks and C. A. Benton of Corsicana.  
 Christian Woltz and E. H. Campbell of Denison.  
 O. F. Johnson of Sherman.  
 T. T. Clark of Ennis.

A. H. Shaffer, Edward Braden, Jr., J. Bowman, Fred. T. Yturri, E. A. West, George and C. Gutzzeit, Richard Thomas, George Thomas, Will Thomas, J. C. Marquardt, Sr., J. C. Marquardt, Jr., and William G. Schuwirth of San Antonio.

The report of the treasurer showed a balance in the treasury and on a motion \$500 was voted to the local association for the entertainment of the national convention. It was voted that the State Association become a permanent member of the Southern League.

After hearing and accepting the report of the Executive Committee, which dealt with complaints and their adjustment, the following officers were elected and Galveston was selected as the place for holding the next convention:

*President*, W. G. Schuwirth, San Antonio.  
*Vice-President*, J. C. Keithley, Houston.  
*Secretary*, David Woodhead, Houston.  
*Treasurer*, D. F. Sullivan, Dallas.  
*Sergeant-at-Arms*, J. C. Marquardt, Sr., San Antonio.  
*Executive Committee*: W. F. Johnson, Sherman; F. S. Brooks, Corsicana, and Christian Wolz, Denison.

### President Culleton's Address.\*

At the fifteenth annual convention, held in New York City June 15, 16, 17, 1897, you elected me president, an honor that I highly appreciated, which should be the ambition and desire of every member of an organization to obtain. Many of us have a delicacy about taking any important office through a fear of not being capable of filling it, but I can assure you that the friendly feeling that has been exhibited to me during the past term more than makes up for any feeling of inability that might exist on the part of any one desiring to be or being placed in the position of president, and I would advise all of you to seek the position. I felt on the start my inability to fill so important an office, and asked you to kindly render me all the assistance in your power and to be ready and willing to respond when aid was required. To this I must say that in nearly every case I have had the hearty co-operation of our members when called upon and desire to express to them my most heartfelt thanks for the most able assistance that you have rendered me and the kind expressions of willingness to perform work in the interests of our organization, of which I herewith give you a short and detailed report, and I hope I will not tire your patience.

In compliance with the wish of many members I compiled the resolutions of the association on trade protection matters, and published them in pamphlet form in October (8000 copies) under the head of "Official Recapitulation of the Amendments and Resolutions of the National Association of Master Plumbers of the United States Relating to the Baltimore Resolutions and Interpretations and Duties of Members and Associations." A copy has been sent to each member, manufacturer and dealer.

Being advised that the association in Georgia was not in as good condition as could be desired, and after some correspondence with B. A. Farrel of Anniston, Ala., I accepted his proffered services to institute a revival there.

\* Presented at the Sixteenth Annual Convention of the National Association of Master Plumbers, San Antonio, Texas, April 13-15, 1898.



During the latter part of February and the early part of March Mr. Farrel visited Columbus, Americus, Cordele, Albany, Thomasville, Way Cross, Brunswick, Savannah, Augusta, Athens, Milledgeville, Macon, Rome and Atlanta. In each place he met with success. On March 7 a meeting of the master plumbers of the State was held in Atlanta, in which the following officers were elected: President, T. S. O'Brien, Savannah; vice-president, J. Belcher, Atlanta; secretary, E. F. Broderick, Savannah; treasurer, D. W. Yarborough, Atlanta. It is a pleasure to state that the affairs in Georgia are once more harmonious, owing to the successful efforts of Mr. Farrel.

Mr. Farrel also visited Jacksonville, Fla., at the request of the State secretary, where his experience and judgment in association matters were much appreciated.

Aroused by the energetic interests and efforts of J. E. Kuchler, Jacksonville, secretary of the State Association of Florida, that association has been reorganized and is now in good working condition. Where we had but ten members last year we now have 24, which includes nearly every master plumber in the State.

In New Mexico, where there are only 14 master plumbers, 12 are in the association, and nine of these are new members this year. Where is there a State that can show a smaller number of the master plumbers outside of the association and the membership obtained at so small a cost? R. L. Dodson, who has so ably filled the office of State vice-president, has secured all these new members through correspondence. If he could have had a larger territory to work in he might have made some of the larger States blush.

Hubert Kelly and his colleagues in Minnesota have done a great deal of work during the year. We hear of better protection, and have 46 new members since the last convention, or a total of 144 out of a possible 150 master plumbers of the State. If we only had a Hubert Kelly in every State in the Union we would not have to battle so hard for protection, or the percentage of membership would be so great that violation would be a thing of the past.

Under the leadership of the State vice president for Missouri, David J. Collins of St. Louis, so well known to all delegates to national conventions, the Missouri State Association of Master Plumbers was reorganized on January 10 at St. Joseph. The following officers were elected: President, E. D. Hornbrook, Kansas City; vice-president, R. T. Konnell, St. Joseph; secretary, William Schwehr, Jr., St. Louis; treasurer, Henry Goss, Kansas City. With such able officers it is hoped Missouri will never again drop out.

C. W. Iredale of San Francisco, State vice-president for the upper section of California, has been one of the most active members during the year, ably assisted by our esteemed executive officer, Firmin. He has made successful visits to Tulare City, Visalia, Hanford, Fresno, Merced, Modesta, Lodi, Stockton, San Jose, Copeland, Sacramento, Haywards, Alvarado, San Lorenzo, Decoto.

Where we had but 34 members outside of San Francisco and Los Angeles, we now have 56, and when the proper time comes for San Francisco to take the convention may there not be a master plumber in California outside the organization.

On February 17 I was pleasantly surprised to hear from Frank A. Sutton of Helena, Mont., that he had organized a local association in that city composed of eight members. Mr. Sutton has been an individual member for some time, and the organization is the result of his efforts. If all individual members would follow the example of Mr. Sutton it would not be long before every little city would have an organization. Mr. Sutton will not stop at this, but will undertake to form a State association in the near future. Let us wish him continued success.

As a result of the work of James F. Traynor of Wilmington, Del., we have three new local associations in Virginia in affiliation, as follows: Richmond, 16 members; Norfolk, 14 members, and Portsmouth, 7 members. When Mr. Traynor volunteered to do missionary work outside his State we had no State vice-president for Virginia, but after the organization of the local in Richmond the members there recommended James E. Phillips for the office, to which I appointed him on November 22.

I desire to here mention the fact that we have never had a local association in Virginia affiliated with the national, regardless of the fact that one of our most distinguished and esteemed members has been located there since the formation of the National, and great credit must be given to our humble friend and member, Jas. Traynor.

In Nebraska H. H. Gaffey, the State vice president, has visited Hastings, Grand Island and Nebraska City, and as the result we have a local in Hastings of three members and one member in Grand Island. The State association has increased 17 members.

At the Nebraska State Convention, held January 10 in Omaha, Wm. Bellamy was elected president and G. K. Black secretary, both of Omaha. In these gentlemen we have two hard workers, and it is safe to say that we will have even a better association in Nebraska next year

than this. Mr. Bellamy has been appointed superintendent of plumbing by the Trans-Mississippi and International Exposition.

Thomas J. Tute of Boston, president of the State association and National State vice-president, aside from visiting neighboring States has formed the New England League, and with the able assistance of so many of our loyal members in that territory it is hoped that next year will see a great increase in members in the New England States.

Edw. Mahl, State vice-president for Connecticut, reports that he visited Norwich, and in place of a local of eight members he increased it to 17. The State has increased eight members.

Robert Drummond and S. Louis Barnes, secretary of the Pennsylvania State Association, and the former president and National State vice-president, made a trip of inspection or reorganization, taking in the following cities: Reading, Harrisburg, York, Lancaster, Easton, Bethlehem and Allentown. In each of these places we had association.

The State association should make the dues on all its members sufficient to defray expenses in organization work in the State and running expenses of the State association.

Illinois has held her own, and has given to you nearly as many members as the two largest States, no extra expenses being borne by the National, its officers being sent to such parts of the State as required reorganization or the settling of difficulties entirely at the expense of the State. While organization has been going on, there has not been any increase in membership affiliated with the national, but I understand that the boroughs of Brooklyn, Richmond and Queens are reorganized, and it is expected that in connection with the Greater New York association they will be affiliated with the National next year.

On August 25, 1895, the Interstate League of Master Plumbers was formed for the purpose of having manufacturers and dealers confine their sales of plumbing goods to members only. The league consisted of the States of Illinois, Iowa, Michigan and Wisconsin, and later on Minnesota was admitted and Michigan withdrew, but since then has joined with Ohio and Indiana in a Central League.

How well the Interstate League has progressed is evidenced by the large increase in membership. As compared with New York, Pennsylvania, Massachusetts and California, the percentage of membership is as follows: Interstate League, 80 per cent.; the four States mentioned, 30 per cent.; as compared with all other States, 36 per cent. As well as an increase in membership, many benefits have accrued to members. The spirit of the Interstate League seems to be spreading, as the formation of other leagues shows.

The Southern League was formed in Chattanooga, Tenn., October 15, 1896, and comprises the following States: Arkansas, Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, Tennessee and Texas, with a percentage of membership of 70 per cent.

The New England League of Master Plumbers was organized in Boston on March 10, 1898, through the personal efforts of Thomas J. Tute. The following officers were elected: President, Thomas J. Tute, Boston; vice-president, Edward Mahl, Hartford, Conn.; secretary, C. P. Brennan, Providence, R. I.; treasurer, Wm. Lumb, Boston.

The Central League of Master Plumbers was organized in Detroit, Mich., in December, consisting of Michigan, Indiana and Ohio. The following officers were elected for the ensuing year: President, J. S. Farrell, Indianapolis, Ind.; vice president, Wm. T. McGurrin, Grand Rapids, Mich.; treasurer, George F. Kirkhoff, Indianapolis, Ind.

The Trans-Mississippi State League of Master Plumbers was organized in St. Louis, Mo., on February 15, 1898, and comprises Missouri, Colorado, Nebraska and Kansas. The following are the officers elected for the present term: President, Wm. Bellamy, Omaha; vice-president, Wm. Cream, Denver, Col.; secretary, George T. Black, Omaha, Neb.; treasurer, Henry Goss, Kansas City, Mo.

I understand that steps are under way to form an Eastern League. With a Western and Eastern League we have seven leagues, which could comprise the future National Association, with representatives from each league, as might be eventually agreed upon.

The membership of the Chicago local association was acquired by leagues, being distinct organizations, affiliated with the Chicago local, until nearly every master plumber in the several districts were enrolled as members, after which the leagues became extinct, the objects for which they were formed having been accomplished.

#### New Associations Affiliated.

Canton, Ohio.....	10	Hastings, Neb.....	3
Norfolk, Va.....	14	Helena, Mont.....	8
Richmond, Va.....	16	Wheeling, Va.....	3
Portsmouth, Va.....	7	El Paso, Texas.....	3
Sault Ste. Marie, Mich.....	5	Parkersburg, W. Va.....	3
Eureka, Cal.....	4	Albuquerque, N. Mex.....	3
San Rafael, Cal.....	3	Fresno, Cal.....	5



## Reorganized.

Riverside, Cal.....	5	Sacramento, Cal.....	13
Spokane, Wash.....	5	Oakland, Cal.....	21
Seattle, Wash.....	10		
New members, not including the new locals.....	140		
New members, including locals.....	82		
Members reaffiliated.....	12		
Locals re-organized.....	44		

## Associations reported organized, but not in affiliation:

Berkeley, Cal.....	14
Alameda, Cal.....	8
Merced, Cal.....	3
Stockton, Cal.....	3
Columbus, Ga., reorganized.....	6
Dayton, Ohio.....	5
Marietta, Ohio.....	5
Borough of Queens, N. Y.....	35
Borough of Richmond, N. Y.....	24
Borough of Brooklyn, N. Y.....	..

## State associations that have increased in membership:

	Last year.	This year.	Increase.
Arkansas.....	26	30	4
*Illinois.....	204	240	36
Washington.....	9	17	8
Virginia.....	12	42	30
Texas.....	54	58	4
New Mexico.....	3	12	9
Nebraska.....	19	35	17
Florida.....	10	23	13
Minnesota.....	98	144	46
Connecticut.....	92	100	8

\* Not including Chicago.

There are a number of associations reported as having organized or reorganized, and many are now under way which, owing to the changing of the convention to two months earlier this year, have not affiliated with the National, and it is expected and hoped that all those that had contemplated affiliating with the National, but owing to the change of date could not arrange it, will be on the rolls next year.

In compliance with the wishes of many new members, I compiled the resolutions of the association on trade protection matters and published them in pamphlet form in October (8000 copies), under the head of "Official Recapitulation of the Amendments and Resolutions of the National Association of Master Plumbers of the United States Relating to the Baltimore Resolutions and Interpretations, and Duties of Members and Associations." A copy has been sent to each member, manufacturer and dealer.

On January 10 I visited Omaha, where the Nebraska State Convention was held, which was very well attended, delegates being there from different parts of the State. They had some trouble with a supply house in Lincoln, named the Western Supply Company, selling to consumers, having a plumbing establishment located in their building by the name of Myer & Cox. This was amicably settled by Myer & Cox vacating the building and locating elsewhere, and joining the Lincoln Association, and the Western Supply Company signing the Baltimore resolutions.

On January 12 I visited the Iowa State Convention, held at Dubuque, which was largely attended by delegates who took an active part in the enthusiastic session, which lasted two days. Iowa, being one of the oldest State associations in our organization, has always made a strong effort for protection. They produced the best and most complete evidence ever offered against a firm for violating the Baltimore resolutions, and by their actions tended more than anything else to bring into harmony a firm who persistently were at variance with and caused more trouble in our organization than any other firm. May the loyalty of the Iowa Association be infused in the members represented at this convention from lukewarm localities by its delegates.

On January 13 I attended the Wisconsin Convention, held at Madison in the Senate chamber of the Capitol Building, and a finer gathering of representative business men could hardly be gotten together, and a business-like and harmonious convention was conducted until the close, which will render great credit to the members of our craft in Wisconsin. It should be the desire of all those who are conveniently situated to attend these State conventions, for they are great educators to our members.

Owing to L. H. Buddemer of Portland, Oregon, retiring from business, I accepted his resignation as State vice-president, and, on his recommendation, appointed H. Claussenius, Portland, for the balance of the year.

Six thousand copies of the proceedings of the last convention were published and distributed in the usual manner. With the proceedings I included the State plumbing laws and the decision of the court in Rhode Island on selling to members only.

The interpretations to the Baltimore resolutions made at the last convention were communicated to the manufacturers and dealers through the "Recapitulation" pamphlet. Since the pamphlet was issued I found it necessary to send out the following circular:

GENTLEMEN: I wish to call your attention to the "Recapitulation" pamphlet sent to you in October last, and ask that you read it over carefully so there may be no misunderstanding regarding the meaning of the Baltimore resolutions, which you have signed.

Owing to the fact that a few do not apparently understand the ruling on one point in particular, I wish to respectfully remind you that consumers in towns where there are no master plumbers are not privileged under the resolutions to buy plumbing material.

I further wish to respectfully call your attention to page 7 of the pamphlet, referring to the conditions under which State, county and city institutions, railroad, gas, water and electric light companies are exempt; also to the first paragraph on page 8, as to who are not exempt.

Inclosed herewith is a revised list of manufacturers and dealers who are signers of the Baltimore resolutions.

Yours respectfully,

THOMAS P. CULLOTON, President.

Throughout the year the executive office has been at work gathering data for the second edition of the directory of master plumbers of the United States. On February 1 the secretary in each city and State and individual members where we have no locals were furnished with a list of master plumbers in their section, and requested to correct and return same. I regret to record that only about 60 per cent. responded. However, the second edition contains 1956 more names than the previous edition.

Each State vice-president and the secretary of the State and local associations have been furnished with a copy of the directory, and are requested to follow the methods of the national office; that is, keep correcting it during the year; every time you hear of a new master plumber put his name down, or one going out of the business cross off his name; adding names of those now in business that are not included, and *vice versa*. By this means you will have it ready for the national office when called for, and it will not seem like such an undertaking. Under contract with the manufacturers and dealers who have subscribed for copies at \$5 each, supplements will be issued every three months from March 25, June, September and December.

During the fiscal year 91 signatures to the Baltimore resolutions have been received. Of this number 14 are resigners, being those who withdrew last term.

Fourteen have been dropped from the list, as follows: Rumsey & Kikemeier Company, St. Louis, for violation. The names of the Humphery Mfg. & Plating Company, Kalamazoo, Mich., and W. Gordon Miller, Allegheny, Pa., were taken from the list, as they were engaged in the manufacture and sale of instantaneous water heaters, and would not agree to the interpretation classing such fixtures as plumbers' goods. The Hendrie & Bolthoff Mfg. Company, Denver, Col., were dropped from the list on their statement that they were not in the plumbing supply business. The Pennsylvania Supply Company, Wilkes-Barre, Pa., withdrew on the flimsy excuse that other signers were violating the resolutions. Nine have gone out of business.

Two different list of signers have been published and distributed to members and dealers in accord; the first in October and the second in March. The March list shows 497 firms. Between October and March three supplementary lists were issued and distributed.

The following signatures have been received since the list was published in March:

The Central Supply Company, Minneapolis, Minn.  
 Findisen & Kropf Mfg. Company, Chicago, Ill.  
 The Burlington Venetian Blind Company, Burlington, Vt.  
 William Heap, Muskegon, Mich.  
 Hermann Furniture & Plumbers' Cabinet Works, New York City.  
 Penacook Mfg. Company, Penacook, N. H.  
 The Sanitary Plumbers' Supply Company, Providence.  
 The Altoona Equipment Company, Altoona, Pa.  
 McNab & Harlan Mfg. Company, New York and Paterson.

John A. Murray, New York.

I have made it a rule to solicit and accept signatures to our protective resolutions through the officers in the locality where such houses have been located, so that no error would be made in accepting those who were not in accord with the associations in their vicinity.

In conclusion I desire to express my sincere thanks for the kind treatment I have received from the officers and members, as well as to our worthy executive clerk, W. Emmett Crosby, for the valuable assistance he has rendered to the office.

If I have erred in my judgment or created any offense to any member I can assure you it was not from my personal or private feelings, or from lack of interest in the organization, for since I have been a member of the association I have always taken the greatest interest to help build it up, that it might be composed of every master plumber legitimately engaged in the plumbing business, and that the local and State associations would be so strong that with a solid phalanx for protection and the best interest of the plumbers' business we might feel that we are perpetuating a business that would be handed down to posterity fully warranting the motto: "They builded better than they knew."



### Cold Weld Range Boilers.

Iron Clad Mfg. Company, 22-24 Cliff street, New York, are now making improved cold weld range boilers as here represented. The important feature of this boiler as now

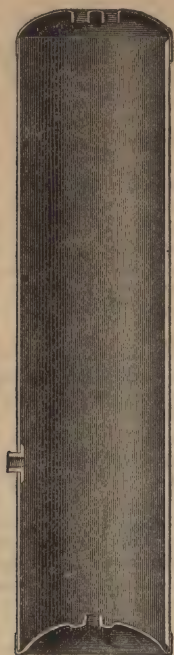


Fig. 1.—Sectional View Cold Weld Boiler.

furnished is that the spuds for the pipe connections in the head and bottom are solid, a part of the head and bottom, which by means of improved presses are so stamped as to



Fig. 2.—Boiler Top Including Spuds in One Piece.

make each of these important parts of one piece of metal. They extend into the boiler, thus making a smooth surface on the outside, another advantage being that they cannot



Fig. 3.—Bottom and Spud in One Piece.

be knocked out or injured in handling or shipping. Indentations are stamped in the bottom as seen in Fig. 4 which, it is stated, form a truss or brace rendering the

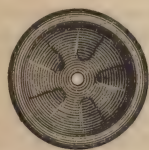


Fig. 4.—View of Bottom, Showing Reinforcement.

bottom capable of withstanding greater internal pressure than otherwise. The boilers are regularly made in two series, each with a capacity of 30, 35 and 40 gallons, while



Fig. 1.—Kellam Patent Flange Wrench.

special sizes can be made to order. Both groups list at the same prices. The first are tested to 200 pounds and are guaranteed not to leak at the spuds or seams for three years under a working pressure not exceeding 150 pounds.

The double extra heavy series are tested to 300 pounds and are unconditionally guaranteed by the company for six years, under any water works pressure in America, and if proved defective will be exchanged for new ones without expense to the purchaser. Emphasis is given by the manufacturers to the absence of rivets or castings.

### Pennsylvania Master Plumbers.

At the Exchange Hotel, Franklin, April 15, the master plumbers of Western Pennsylvania held their annual meeting. Representatives were present from Greenville, Sharon, New Castle, Corry, Titusville, Oil City, Meadville and Franklin. The following officers were elected:

*President*, Thomas Stone, Greenville.

*Vice-President*, James Reidy, Oil City.

*Treasurer*, William M. McCorinick, Sharon.

*Secretary*, John Leslie, Sharon.

### Kellam Flange Wrench.

Eaton, Cole & Burnham Company, 253 Broadway, New York, are manufacturing the Kellam flange wrench, illustrated herewith. It is designed for quickly screwing flanges on pipe, superseding the placing of steel pins or



Fig. 2.—Method of Using Wrench.

bolts in holes drilled near the edge and then forcing with a lever, with the resulting risk of damage to the flange. The wrenches are made in sizes 1, 2 and 3; 4, 6 and 7 feet long, respectively. The first will take flanges from 4 to 10 inches outside, the medium size having a capacity of 8 to 16 inches, while the larger one will turn flanges from 14 to 26 inches. The whole device is made of steel, the lever being one solid forging. Fig. 1 represents the tool as in use. It can be adjusted to various flanges within certain limits by turning the knurled nut in the cast steel sleeve which moves back and forth on the bar. In connection with this sleeve is a toothed jaw which works in a ball socket, and by pressing the pin against a spiral spring it may be reversed by turning over, thus making the wrench suitable for either right or left threads. The bars of tool steel are respectively  $1\frac{1}{2}$  x  $\frac{5}{8}$ ,  $2\frac{1}{2}$  x 1 and 3 x

1 inches in dimensions. One advantage referred to by the makers, aside from any possible damage to the flange, is the ease and rapidity with which flanges can be screwed on.



## How Should the Plumber Conduct His Business in Order to Make a Reasonable Profit?\*

BY JOHN J. FOY, ST. LOUIS.

A plain question on a subject of vital interest to each of us! When Goldsmith in the contentment of his broad nature said "Man wants but little here below, nor wants that little long," he did not foresee the conditions that would exist at the end of a century characterized in most things as the most progressive in the history of civilization. He did not foresee a mighty host, generously equipped with brain and brawn, vainly endeavoring to solve the problem of securing even that little with which he would have us be content. To review facts and conditions that have served to bring about such a state of affairs is only to add to the caustic volume of pessimism, of which, in good times or bad, we always have a surfeit. The youngest among us equally with the oldest are familiar with them in their every day experiences, and are interested less in their written repetition than in a practical method of destroying them. We are here for just such purposes—here to bring about prosperity, good will and good fellowship; here to enact laws and regulations that will tend to elevate our craft—that will give us added dignity and value in the estimation of the public at large. Here to win their commendation and give them a clearer understanding of our position in their midst, both as artisans and as guardians of their health, and therefore of their happiness. Here to do those things for their sake as well as ours, for a posterity yet unborn as well as for those of our own day and generation.

### HOW TO ADVANCE THE TRADE.

The question now before us was not always as important as it is to-day. A quarter of a century ago our predecessors found little or no occasion for it. In that period of time our advancement has been phenomenal, as great and rapid as can be shown in the history of mechanics. Add to this the impetus that the birth and growth of our national organization has given us—the value of social intercourse and exchange of ideas; the sound doctrines of trade advancement and of trade protection promulgated in our State and local organizations; the ever growing enactment of State and municipal laws governing both the qualifications of the plumber and the character of his work; the educational value of our splendid trade press, and the assistance of the manufacturers in the very general enforcement of the famous Baltimore resolutions—and one marvels that such progress has not brought a corresponding advance in financial returns.

The master plumber of to-day is burdened with cares and responsibilities greatly in excess of his predecessor and under fair conditions should receive a proportionately greater reward for the added labor, study and energy he expends. To divine the reason for the non-existence of this is to answer the question at issue. The tremendous and entirely disproportionate increase of competition is the reason most of us will assign. We have produced too many master plumbers. How? By employing too many apprentices! In placing hundreds of half trained and only too often ignorant young men in the ranks of the journeymen plumbers year after year we have overstocked the market. The result is that most of this class get into business and bring about the very worst competition we know of, equally injurious to the legitimate journeyman plumber as to the master plumber. A low order of intelligence and his lack of skill as a mechanic make him a fit tool for the speculator and the cheap builder, and a load-stone of destruction to that element among us who endeavor to construct high class work, use good material and good workmen to accomplish it, and who seek fair remuneration for their efforts. We make laws here and there restricting the competition of non-practical men and disbarring them from our membership. Personally I am in accord with such laws, but I have never found such competition to be as unfair as the type I have already noted. Usually they are men of business ability, of at least ordinary intelligence, and as such are willing to succor any movement that promises an added value to their investment. The class we produce ourselves is where the trouble lies, and there it will remain till we revise our apprenticeship system and so arrange it that we shall prevent overproduction, produce a higher class of mechanics and intelligent business men. I have heard a great remonstrance to this suggestion as to its being un-American and un-Christian. I can only ask, Is it the greater crime to restrict their numbers and make the ultimate prize worthy of their every effort, or to turn loose a countless host year after year who barely find the means of existence and in whom every ambitious thought or hope is dead?

### CONFERENCE BOARDS.

The apprentice, the journeyman, the master plumber! Those are the three eras in the evolution of one man;

therefore the interests of the three types are in a very great measure identical. Every city and every State should work in harmony—employer and employee—through the medium of conference boards. These boards should determine the number of apprentices their city or State should take care of. After the number is determined and allotments made, cause all applicants to pass a competitive examination and accept only such as fulfill its requirements. Draw up papers of indenture between such boys and their future employers and enroll them on the board's roster of apprentices. We would all take an interest in these young men, recognizing in them a new type of future plumbers, and one from which ourselves, our craft and the public might expect much that would be for our mutual good and advancement. Schools of instruction should be established where they might secure a theoretical as well as practical education. Everybody respects the reasoning mechanic, and in greater measure than he who is simply a mechanical tool, no matter how expert he may be as such. Lectures, chalk talks and occasional practical demonstration of work would cost nothing—everybody who honors his craft would contribute freely to that feature. A plain business education should be provided for them, and such instruction as might be considered necessary should be paid for from the funds of the master plumbers' organization or from a special fund that might be created. I believe manufacturers generally would contribute to such a fund, for they would be benefited by the results obtained almost equally with ourselves.

### OTHER METHODS.

Of course other methods of ameliorating present conditions may be and to some extent and in some localities have been resorted to. They are usually based on agreements as to prices or upon some specific arrangement with the manufacturer or dealer; but no matter of what nature, their import is always to secure better payment than the enormous competition would otherwise allow. All such plans ultimately fail. They are the panacea of a day or a month—their effect can never be other than temporary. Why not get down to first principles—get down to the apprentice, the future journeyman, future master plumber, future competitor? There is nothing in this scheme of reform that will not stand the search light of publicity nor but, if once understood, would receive general commendation. The American people are gradually learning to appreciate the importance of our craft. They are misled at times by a false feeling of safety in the too often imaginary protection afforded by State and municipal laws against incompetence and ignorance. When they are enlightened and understand exact conditions they are as anxious for the general advancement of the plumber as we are. The unbiased observer and the educated man in every walk of life is willing to admit that plumbing in its truest sense is not only the foremost of the mechanical arts, but a science as well, and as deserving of protection as the professions, as the law and medicine, for instance. Suppose for a moment that those two professions had been as lax in their methods of developing graduates for the last quarter century as we have been! It would have proven ere this a national calamity. An ignorant lawyer is a menace to good government and ultimately its destruction. An unskilled physician destroys rather than saves life. We recoil from such in horror and in dread. It should be so, and some day will be so, with the plumber. Let us commence a campaign of education and restriction. Take the public into our confidence and educate them, for, contrary to the opinion of many of our older members, I see no harm in it, but instead infinite good.

### THE EDUCATED PLUMBER.

Let us hope for a day—yes, and work for it—when it will be as great a source of pride to our young men to produce a diploma as a first-class graduated plumber as it is for the young physician or lawyer who, after years of study and perhaps privation, at last finds the diploma of his college within his grasp and the broad, fruitful field of active practice opened up before him. Any craft, any business, any profession that is open to everybody irrespective of their qualifications is already decaying and ultimately destined to live with little but a once honored name to stamp it as worthy of pursuit.

Now, gentlemen, the reformation of our apprentice system along the lines I have dwelt upon is a fitting answer to the question propounded or it is not. If wrong it will at least prove salutary in stimulating some more logical mind to the exploitation of a more practical and therefore more acceptable scheme. At any rate, do not allow the matter to be forgotten. Do not accept conditions as being either unavoidable or unalterable. That position is untenable, for to my mind those conditions are the result of our own lethargy and indifference. We probably think enough, but we lack force, lack action, and a successful career either of an individual or of a collective body calls for action and energetic application to the end in view. Look at the great work our Southern brothers have done and are still accomplishing. Not being

\* Presented at the San Antonio convention of the National Association of Master Plumbers.



a Southerner I can afford to praise them, and I do so. The nervous energy and vim, so long vaunted as the characteristic of the North, seems to have transplanted itself in Southern soil. We might all profitably imbibe of their enterprising spirit and of their aptitude for co-operation.

I often think of the closing quotations in the speech of your ex-President Young in St. Louis at your national convention of 1895. They are grand words to remember all the time, and particularly when your efforts and your labor appeal to you as vain and as utterly fruitless. Grand words to remind you that no worthy action, thought or word ever went without its ultimate reward. Inspiring words to place before your sons and the rising generation to kindle the fires of their better nature as well as of their ambition, to teach them to live for others as well as for themselves—to teach them that "All of living is not life, nor all of dying death."

Lives of great men all remind us we can make our lives sublime,  
And departing leave behind us footprints on the sand of time;  
Footprints that perhaps another, sailing o'er life's solemn main,  
A forlorn and shipwrecked brother, seeing shall take heart again.

## International Health Exposition in New York.

The International Health Exposition, the programme of which was printed in full in these columns some time since, will be opened in the Grand Central Palace, Forty-third street and Lexington avenue, New York City, on Monday next, April 25, to continue until May 31. It is under the auspices of the New York Household Economic Association and other kindred organizations, and aims at illustrating modern hygienic and sanitary progress in all its branches. According to the prospectus issued by the management, every effort will be made to stimulate public interest in health matters by displaying the best sanitary apparatus in every line. Old and new appliances will be placed side by side to show what advances have been made. Models of buildings will illustrate changes in construction and modern improvements in plumbing, heating, lighting and ventilation. There will also be shown in practical operation a model kitchen, dairy, stable, laundry, nursery, school room, workshop and hospital. Every day during the exposition popular lectures will be given on various topics in a separate lecture room.

More than 3 acres of floor space will be filled by exhibits. Among the firms who have taken space for a display of their products are the following:

American Encaustic Tiling Company, New York.  
Atlantic Refrigerator Company, Springfield, Mass.  
American Brass Works, Newburg, N. Y.  
F. W. Devoe & C. T. Reynolds Company, New York.  
Dimock & Fink, New York.  
Du Parquet, Huot & Moneuse Company, New York.  
A. A. Griffing Iron Company, New York.  
Hot Appliance Company, New York.  
H. W. Johns Mfg. Company, New York.  
Lalanc & Grosjean Mfg. Company, New York.  
Lawler Feed Water & Damper Regulator Company, New York.  
Loomis Manning Filter Company, New York.  
Mayor, Lane Company, New York.  
E. Major Cement Company, New York.  
Rossman & Bracken, New York.  
Stransky & Co., New York.  
Standard Filter Company, New York.  
J. Whitley, Brooklyn.

### Combination Heaters.

We have received from the National Pipe Bending Company, New Haven, Conn., a four-page pamphlet devoted to combination stoves and furnaces for water and air heating. Illustrations are given of the stove adapted for heating a room, in which there is a coil of pipe for heating a kitchen boiler or radiators in a heating system. The hot air furnace has a large coil in the combustion chamber, and is designed for heating air as well as water. The stoves are made in four sizes, and the circular gives the grate area, amount of heating surface exposed in the coil and the radiation which each size will carry. In the

furnace the grate area is given, the heating surface exposed in the coil, the radiation which the coil will carry, and the amount of area in hot air pipes which the different sizes of furnaces are capable of filling. The furnaces are made 32, 36 and 44 inches in diameter, rated to carry 550, 700 and 900 feet of radiation, and having a hot air pipe capacity of 212, 240 and 350 square inches.

### Gurney Boilers.

The Gurney Heater Mfg. Company, 74 Franklin street, Boston, Mass., with New York office at 41 Centre street, maintain the high standard which they have established for trade literature in the latest catalogue which they distribute to their friends and customers. We are in receipt of five pamphlets from this concern illustrating and describing in the most elaborate way the extensive line of heaters and radiators which they manufacture. One is a buff bound publication of 44 pages devoted to the Doric heaters for hot water and steam warming. A second, bound in purple, is devoted to the Gurney 300 series hot water heaters; a third relates to the Gurney safety water tube steam boilers; a fourth to the Bright Idea safety water tube boilers, while the fifth is occupied with illustrations and descriptions of the Duet, Harvard and Yale Quintette radiators for hot water and steam heating.

All of these publications are exceptionally handsome examples of trade catalogues, the coated paper used bringing out the fine illustrations to the best advantage, and also displaying the typography with fine effect. Nor is the interest in these publications centered alone in the artistic rendering of the contents, but is also due to the information which they contain. The illustrations of the various boilers are general and sectional, while full descriptions with tables of dimensions, sizes, capacities, &c., are given in all cases. An announcement of special interest is conveyed to the trade to the effect that the company will be glad to furnish on application copies of their handsomely illustrated booklet, "How Best to Heat Our Homes," for distribution among customers. Any one who has not received a copy of these catalogues would be well repaid by sending for a set.

### Plumbing in Australia.

The importance of the work going on in connection with the Melbourne sewerage scheme justifies the devotion to it of the greater part of our "Plumbers' Corner" at present, says the Australasian *Ironmonger*. We call special attention to the great opening there is for working plumbers and, indeed, for master plumbers in Melbourne during the next few years. The work started seven months ago. Allowing a month for the scheme to get into fair operation, we have six months' work, during which 1718 houses have been connected and 459 in course of completion. These connections are mostly with the smaller class of houses, and the work has been less than it will be when the large residential districts and the city are attacked. Mr. Thwaites, the engineer in chief of the Metropolitan Board of Works, told a reporter on February 24 that it would take ten years to complete the sewerage of the metropolis, mainly on account of the dearth of plumbers. But there are 108,000 houses in the districts to be sewered. One thousand seven hundred and twenty in six months works out at 3440 a year, and it is only a simple proportion sum to show that this means 31 years instead of ten years for the completion of the work at the present rate of progress. During the whole of that time interest charges on works that cannot be put to their full use will be accumulating, and unless some steps are taken to accelerate the speed of completion the Melbourne sewerage scheme will be about the most costly that has ever been devised.

### An Opportune Calendar.

We have received from L. O. Koven & Brother, 18 Spruce street, New York, a calendar, a feature of which is a bust of President McKinley in relief on heavy cardboard. The bust is 10 inches in height and was prepared from photograph, and is said to have been indorsed by Mr. McKinley as being a very accurate and fine portrait.



The calendar begins with the month of April, which has been pointed out as an eventful month in the history of the United States. Koven & Brother have used the calendar as a means of advertising their business of galvanized iron range boilers and expansion tanks for hot water heaters. The cut of the boiler and the text are in silver bronze, which does not detract from the beauty of the plaque, and the silver bronze reflects very correctly the general appearance of the boilers as produced. Those who desire this calendar can secure it by addressing the house and inclosing 4 cents in stamps to pay the postage. The plaque is manufactured by W. Koven, Jr., 16 Spruce street, New York, who makes a specialty of relief work for advertising purposes.

## NOTES.

Local dealers in Plumbing Goods and Steam Fitters' Supplies complain of increasing dullness in business. Nothing beyond a routine demand exists, and the meager inquiries received demonstrate that buyers are pursuing a cautious and conservative course—due, no doubt, to the disturbed condition of public affairs, which is affecting all lines of business in this quarter. The check to building operations in this vicinity also contributes to the slackness of orders. Prices, while generally firm, are not quotably higher in any line, although Wrought Iron Pipe is stiffer, concessions recently made being hard to obtain now.

H. T. Rowe, 938 Penn street, Reading, Pa., has a contract for exposed plumbing with nickel fixtures and steam heating for nine dwellings for one customer, and a similar contract in three houses for another, and also has contracts for three private residences in which the latest styles of plumbing fixtures will be used.

The Oswego Water Works have issued new rules in reference to plumbing, composed of 16 sections.

Charles H. Goss, St. Johnsbury, Vt., has a large force of workmen at Jefferson, N. H., plumbing the Hotel Waumbek.

P. A. Clifford, Concord, N. H., is winning a reputation for his success in the installation of Acetylene Gas Lighting Plants.

We have received from the Pierce, Butler & Pierce Mfg. Company, Syracuse, N. Y., a very neat little pamphlet in a buff cover bearing their address and a design having a three-color effect, stating that the catalogue is devoted to Radiators, Radiator Valves and Air Valves. It consists of 16 pages, and at the top of the right hand pages the letter "P" in red in a wreath of laurel in black appears, which is the trade mark of the company. The first nine pages are devoted to the Bremen, Syracuse and Reliance Radiators, which are made in various heights for both steam and hot water; the next four pages to Radiator Valves and Union Elbows. Three pages are occupied by the Royal Float Valve, the Non-Drip and the Perfection Air Valves of the expansion type. On the last page is an invitation to get prices and catalogues of the line of Steam and Hot Water Heaters made by the American Boiler Company, which are sold in the East by the Pierce, Butler & Pierce Mfg. Company.

Bids will be received for plumbing work at the Willard State Hospital, at Geneva, N. Y., until April 29.

Frederick E. Hill, New York Life Building, New York City, is the architect for a new \$100,000 auditorium for Kansas City, Mo., on which bids will be received for the plumbing, lighting, heating and metal roofing about May 1.

The United States Heater Company, Detroit, Mich., are building a brick factory, 120 x 158 feet in size.

Tests of 5427 gas meters at Syracuse, N. Y., have been made by T. Littlehales of that city. As a result the observer found that 1744 of the meters ran from 1 to 18 per cent. fast, 3035 from 1 to 32 per cent. slow, 616 were classed as correct, showing less than 1 per cent. variation, 616 failed to register and one would not pass gas. Most of the meters running either fast or slow showed variations of 5 per cent. or less, and only 31 meters out of 1744 ran more than 7 per cent. fast. The average excess registration for all the fast meters was  $2\frac{1}{2}$  per cent., and for slow,  $3\frac{1}{4}$  per cent.

The Model Mfg. Company, Boston, Mass., manufacturers and dealers in Plumbers' Supplies, have assigned to Jas. A. Riordan, Boston. An extension will probably be asked for and the business continue.

Thomas G. Oakes & Co. of 54 John street, New York, have ready for distribution their catalogue and price-list for 1898 and 1899. The catalogue gives sizes and prices of the Oakes Acorn, Globe, Angle, Cross, Check, Off Set

Corner and Radiator Valves from  $\frac{1}{8}$ -inch upward, and also the prices on Oakes Disks for high and low pressure valves and Oakes Acorn Jointing and Royal Red Packing. This catalogue is in handy shape for ready reference, and will be sent to any one interested upon application, post-paid.

John J. Lynch and T. J. Cronin were granted plumbers' certificates at the last meeting of the Board of Plumbers and Plumbing at Binghamton, N. Y.

James Campbell, who has recently been appointed plumbing inspector for Wilkes-Barre, Pa., is visiting the cities of Harrisburg, Reading and Philadelphia with a view of better fitting himself for his duties.

The Schlemmer Company, Cincinnati, Ohio, are sending a notice to the trade stating that they are prepared to furnish promptly O. S. Circulating Fittings, O. S. Distributing Fittings and Temple Back Vents. The Eastern branch of the company will be at 109 Beekman street, New York, in charge of Clifford Schlemmer.

The Bignall & Keeler Mfg. Company, Edwardsville, Ill., favor us with a copy of their Catalogue No. 14, which is just off the press, and is now being sent to the trade. The catalogue contains engravings with descriptions of their Pipe Threading and Cutting Machines, Combination Bench and Pipe Vises, Power Rolling Pipe Cutters, Shapers, Emery Surfacers, Screw Punches, &c. The catalogue also contains a number of interesting tables which will be found useful to machinery users. Some 50 *fac simile* letters, are shown from users of the line of machinery made by the Bignall & Keeler Mfg. Company, and it is noticeable that nearly every State in the Union is included in this list.

Secretary R. Ward Hillman of the Judson A. Goodrich Company, 120 Beekman street, is meeting with very satisfactory sales for their High Grade Steam Specialties in New England, where he is making a business trip.

P. L. McLain, superintendent of the works of the J. H. McLain Company, Canton, Ohio, was the guest of Frank C. McLain, 83 Centre street, New York, this week, and reports the plant well engaged in producing their line of Steam and Hot Water Heaters.

E. S. Wheeler & Co. of New Haven, Conn., while retaining their office and salesroom at 194 Front street, New York, have opened a modern show room for the display of their samples of Roofing Tin and high grade Plumbing Fixtures at 176 Fifth avenue.

Bell & Anderson, Portland, Conn., report that they are meeting an increased demand for their Pipe Coupler and other plumbing specialties.

The Model Radiator Company of Elwood, Ind., have been incorporated, with a capital stock of \$25,000.

M. J. Connahan, formerly the national secretary of the National Association of Journeymen Plumbers, was the recipient recently of a handsome gift from the Pittsburgh Journeymen Plumbers, the occasion being the concluding entertainment of Local Union No. 27. Mr. Connahan, who is now a master plumber, received from his former associates a silver service and \$250 in cash.

### New Firms and Changes.

George Spangler, Monroe, Wis., has disposed of his plumbing, pump and windmill business. C. B. Churchill has purchased the plumbing business and Riley Bros. have taken the pump and windmill stock. Possession of the stock has been given. Mr. Spangler will remain in business at the old stand and continue his gun shop and general repairing business.

J. A. Dillon has purchased the plumbing establishment of J. M. Hardwick at Colorado City, Col.

E. E. Davis, formerly with Peck Brothers & Co., New Haven, Conn., has purchased the plumbing business of F. H. C. Thompson, and has opened a shop in the basement of the Capitol Hall, at Montpelier, Vt.

Goodrich & Eitapence, Worcester, N. Y., have dissolved partnership, and the business is now conducted under the style of Eitapence & Co. The new firm will enlarge and remodel the store. They will also add a show room for Plumbing Fixtures, Heaters and Furnaces, and will increase the general stock.

Wm. Gagne and W. F. Smith have entered into a partnership in the plumbing business at Farmington, Maine.

Kerwin Bros., Albany, N. Y., have secured a \$20,000 contract for plumbing a new hotel on State street.

Glines & Keeler, who have done a plumbing and stove business at the corner of Main and Pope streets, Hudson, Mass., for several years, have dissolved partnership. G. Fred Glines will continue in the business, having bought out Mr. Keeler's interest.



# THE RETAIL STORE.

## Cyclone Can Cutter.

The Bridgeport Mfg. Company, Bridgeport, Conn., have put on the market the Cyclone can cutter, here shown. The circular cutter, made of steel, hardened and

which are here given. Fig. 1 shows the chopper ready for use and the method of fastening it, there being at present one size only, No. 25. All cutting parts are steel, and the utensil is thoroughly coated with tin. It will cut coarse, medium or fine, according to the size of plate

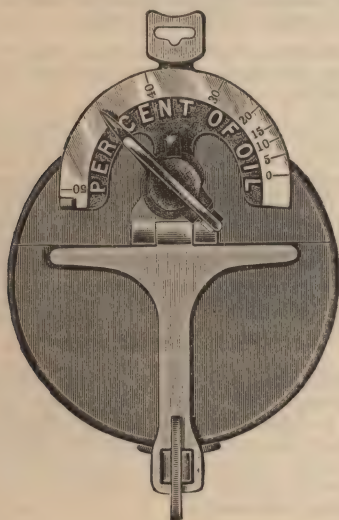


*Cyclone Can Cutter.*

tempered, revolves, so that while operating easily it makes a smooth, clean incision, leaving the edge of the metal slightly rolled, instead of rough or jagged. It can be easily adjusted to fit different sized cans, is well finished, neatly packed and can be retailed at 10 cents.

## Sprayer Oil Tank Indicator.

For diluting kerosene with water, when used as an insecticide, the Deming Company, Salem, Ohio, have provided a gauge to be used on the top of the oil tank, as shown in the accompanying cut. The method by which the proper proportion of oil is obtained in the use of the mechanical mixture is as follows: The water is placed in one tank and the oil in a smaller tank, the suction pipe of the pump connecting with both tanks. In the suction pipe of the oil tank is a valve which connects by means of a rod



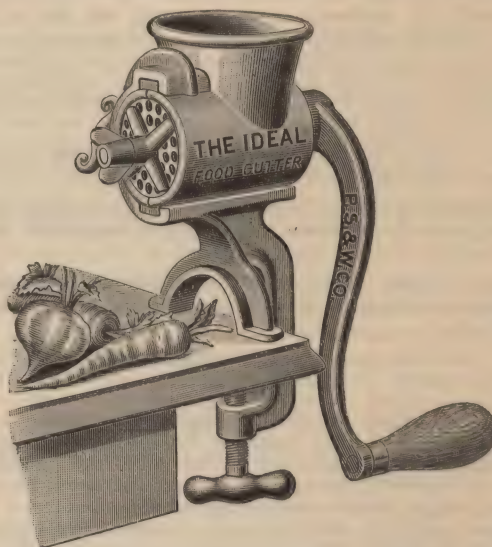
*Sprayer Oil Tank Indicator*

with an indicator on top of the kerosene tank. When the indicator is turned the valve is raised or lowered as the case may be, thus allowing a greater or less amount of kerosene to pass into the pump cylinder. In this manner any proportion of oil may be obtained. The figures on the gauge plate indicate the per cent. of oil that will be obtained when the indicator is placed at the various points. The per cent. of oil varies, it is explained, from 10 to 50 per cent. In general use, however, 15 per cent. is the correct proportion for nearly all insects, as it will kill the insects and yet will not injure the foliage. The company manufacture in three types the sprayers heretofore described—the bucket, knapsack and orchard or barrel sprayer.

## Ideal Meat Chopper and Food Cutter.

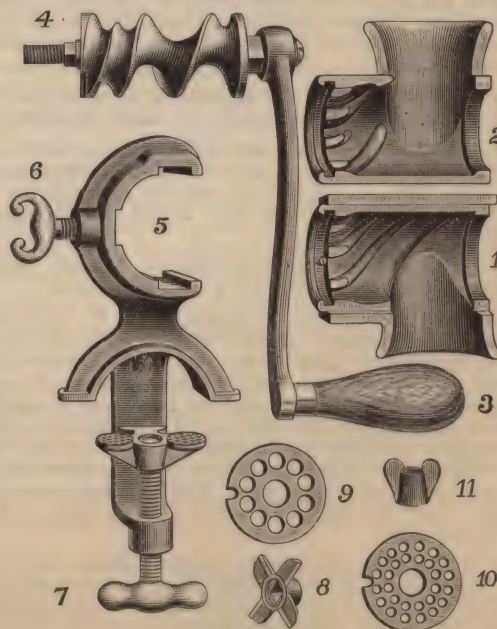
Peck, Stow & Wilcox Company, 27 Murray street, New York, have just put on the market an addition to their already large line of meat choppers and food cutters, which will be known as the Ideal, illustrations of

used, and can be used in connection with various meats, raw or cooked, vegetables, fruits, fish or almost anything



*Fig. 1.—Ideal Meat Chopper and Food Cutter No. 25.*

edible in the preparation of the numerous odd dishes continually being devised. Fig. 2 illustrates the simplicity



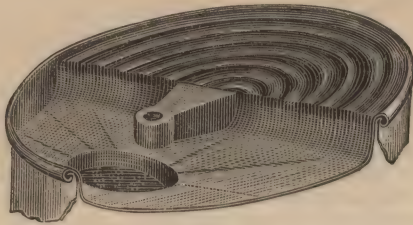
*Fig. 2.—Parts of Ideal Meat Chopper.*

of the parts and shows the ease with which they can be cleaned.



### Improved Oil Tank Top.

The Keen & Hagerty Mfg. Company, Baltimore, Md., have just brought out an improvement in the construction of their Maryland oil tanks, in the new top, of which an illustration is given herewith. These tops, on which the measures rest, are now stamped from one piece of metal



*Improved Oil Tank Top.*

and "double seamed to the body of the can. This affords an absolute protection to the contents of the tank, as there are no crevices in which dust or dirt can accumulate. In addition to this the tank is considerably strengthened and its appearance improved.

### Wire Carpet Beater.

The Ludlow-Saylor Wire Company, St. Louis, Mo., are putting on the market a wire carpet beater as herewith illustrated. It is made of No. 6 coppered steel spring wire, with the wire passing through the handle and turned in to make it especially strong and to prevent the wire being pulled out. The handle is of ash, well ribbed, with a knob on the end to prevent the hand slipping.



*Wire Carpet Beater.*

The handle also has on the end, where the wire enters, a heavy brass ferrule to add strength to the beater. The heads are packed in cases of half and one dozen each.

### Kieckhefer Brothers Company,

Milwaukee, Wis., have issued a complete but very compact catalogue of Granite Steel Ware which they manufacture. This line of enameled ware has secured a very wide sale in the comparatively brief time in which it has been placed on the market, and the company are justly proud of the success which they have achieved. The goods shown comprise coffee biggins, coffee boilers, milk or rice boilers, a great variety of bowls and buckets, culenders, cups, dippers, soap dishes, funnels, kettles for all purposes, ladles, measures, molds, pails, pans, plates, pitchers, coffee pots, sauce pots, bread raisers, grocers' scoops, foot tubs, &c. The manufacturers also call attention to their complete line of pieced tinware, copper ware, black and galvanized steel ware, plain and retinned stamped ware and japanned ware.

### MEMORANDA.

The catalogue received from V. Clad & Sons, Philadelphia, Pa., relates to seasonable goods for the summer season of 1898. It is a volume of 50 pages, bound in colored paper, and contains illustrations of an extensive variety of Ice Cream Machines and Supplies, covering Freezers, Molds, Spoons, Forms, &c. All sorts of Tinware are illustrated, and Lemon Squeezers, Milk Shakers, Glasses, Spoons, Ice Shredders, Water Coolers, Tables and the various goods needed for the equipment of an ice cream saloon are illustrated and priced.

Walter S. Brown has recently purchased an interest in the Tin business of A. L. Wheeler, Wilmington, Vt., and the business will hereafter be conducted under the firm name of Wheeler & Brown.

White & Miller have taken over the retail Stove business formerly conducted by O. S. White at Waynesville, N. C.

E. G. Kerth & Co. have added a Tinware department to their large hardware store, at Anna, Ill. They will also do tinsmithing and roofing. This department will be in charge of Henry Reems.

Anthony Kostanzer, a well-known citizen of Crawfordsville, Ind., died on Tuesday morning, April 12, in the seventy-ninth year of his age. He was born in Germany, and came to the United States in 1847, settling in Craw-

fordsville, Ind., in 1850. A short time later he opened a wholesale and retail stove and furniture store and built up a large business, which is now being conducted under the style and title of A. Kostanzer's Sons, 302-304 South Washington street. The funeral services were held on the afternoon of Thursday, April 14, and the interment was at Oak Hill Cemetery. Mr. Kostanzer left six children.

C. Sidney Shepard & Co., 19 to 25 Randolph street, Chicago, are overhauling and redecorating their offices and sample room. Painters and paperhangers have been busily engaged for the past week in brightening and embellishing the ceiling and walls.

The Robert Donahue Iron and Hardware Company of Burlington, Iowa, issue a catalogue relating to Iron, Steel, Nails, Wagon Stock, Barb Wire, Sheet Iron, Tin Plate and Metals. The book has stiff covers and is bound in cloth, containing 305 pages. It is profusely illustrated, with list prices of a large range of goods including those for Blacksmiths, Wagon and Carriage Makers' use, Carriage Paints, Mechanics' Tools, Heavy Hardware, Corrugated Iron, Conductor Pipe, Eave Troughs, Fences and Gates, Metals, &c. An illustration of the company's stores occupies a place near the front of the book, and this is followed by an alphabetically arranged index. The catalogue is well printed on a good quality of paper, and will be serviceable to those interested in these lines of goods.

One of the large Hardware houses in the State of Texas is that of Walter Tips, Austin. The business was commenced by Mr. Tips' brother, Edward, in 1858. Until the present owner took possession a retail trade only was done, which has been continued in connection with a wholesale department, embracing Shelf and Heavy Hardware, Sporting Goods of all kinds, Blacksmiths', Plumbers' and Machinery Supplies, all descriptions of Agricultural Implements and Machinery, Wind Mills, Pumps, &c.

Territory covered is from 150 to 200 miles radius of the city of Austin. Mr. Tips reports an exceedingly satisfactory business during 1897, and he is gratified with the present condition.

The old Hardware and Stove firm of Wadleigh & Morse, Salem, Mass., have admitted to equal partnership their bookkeeper and workshop foreman, the capital remaining as before.

Page & Co. have opened a retail Hardware, Stove, Implement and Sporting Goods store at Union City, Conn.

R. C. Allan, formerly in the Hardware business in Snohomish, Wash., has gone to Alaska, and Cochran Brothers of Montesano, Wash., have opened a branch store in Mr. Allan's old quarters, the style of the new establishment being Snohomish Hardware Company. A line of Shelf and Heavy Hardware, Stoves, Tinware, Agricultural Implements, Paints, Oils and Sporting Goods is carried.

Fred. Shoaf, West Newton, Pa., has added a full line of Shelf Hardware to his former stock of Stoves and Tinware.

The Owl Hardware Company of Brazil, Ind., have been incorporated, with a capital stock of \$10,000. They have purchased the Hardware stock of Henry Trevett of Champaign, Ill., which has been removed to Brazil. The company will begin business in about two weeks in the Hendrix Block, opposite the post office, and are now having the premises thoroughly overhauled and adapted to the requirements of a modern Hardware store. H. S. Renick, formerly of Greencastle, a Hardwareman of 18 years' experience, will have the general management of the business. Others interested in the concern are John Flewss and James T. Allen, veteran Hardwaremen, and Al. Hirt, well known in the Stove line. The company will conduct a retail business in Shelf Hardware, Stoves Tinware, Agricultural Implements and Sporting Goods.

J. A. Engleman has succeeded Quist & Seabloom in the Hardware, Stove, Implement and Harness business in Essex, Iowa.

A. N. Patriarch & Co. have opened a store at Marlette, Mich., handling Shelf Hardware, Stoves and Tinware, Sporting Goods, Bicycles, &c.

The work of equipping the street railway lines of Baltimore, Md., for operation by electricity in place of cable traction has been begun.



# TIN PLATES.

## WELSHMEN VISITING AMERICAN TIN PLATE WORKS.

A press dispatch from Anderson, Ind., dated April 16, states that T. J. and J. W. Williams, sons of William Williams of Swansea, are visiting some of the American tin plate plants. William Williams was once known as the greatest tin plate manufacturer in the world, but his glory has been somewhat eclipsed by the new luminaries brought into existence on this side of the Atlantic. The Messrs. Williams are accompanied by David Davies, editor of the *South Wales Daily Post*, and representing a syndicate of English magazines, who is stated to be collecting material for a series of articles on the American tin plate industry. These gentlemen have found the newly established American industry in very lusty growth, although only about seven years old and forced to fight for most of that time with decidedly discouraging financial conditions. It is interesting to learn their opinion of the tin plate situation. T. J. Williams was interviewed while at Anderson and spoke very frankly. While some of his statements appear to be at variance with our information, we nevertheless reproduce in full what he is reported to have said, as follows:

Up to 1891, when the McKinley act created a tin plate industry within your borders, the United States was our greatest customer. Nothing but Welsh tin plate was then used in America. Since then, however, starting with one plant in September, 1891, your industry has grown to such proportions that it has entirely shut out the Welshman. It is needless for us to say that he will hold only a part of the American market.

Though we do not believe in a protective tariff and are of the opinion that in the long run it will prove disastrous to a people who are necessarily a selling country, still it must be admitted that the McKinley act has created a great industry within your borders. Under this protection your manufacturers have erected 39 plants over the country and they represent 180 mills. Your industry has reached such a point that, without any tariff to keep us out, they could meet and sell even with us and still break even. The tariff amounts to 50 per cent. of our cost of production. You get your steel cheaper than we do, and your product now is quite equal in quality to that turned out in the Welsh plants. It was heralded that Yankee ingenuity would revolutionize the art of tin plate making, but in seven years you have made no changes from our old processes. In the meantime, while your tariff is keeping Welsh tin plates out it is also shutting off our wheat and produce buying trade from you. We are building up a great export trade with Russia and Siberia, and while they are becoming our greatest customers we are also developing in those countries a new industry—raising wheat—and it is becoming evident that they possess one of the greatest wheat countries on the earth. Our ships which carry to them tin plate come home laden with this wheat, which formerly our ships coming to this country laden with tin plate brought home from America.

Our worst point of depression, caused by the American market being taken away from us, was about 18 months ago, when over half of our 480 mills were closed. In Wales the production of tin plate is very much overdone and some plants are always closed down, but the loss of the American market, I should judge, shut down half of the plants that were running. Since then our attention to the Russian and Siberian markets and the markets of other countries has had the effect of building up a good trade, until now I should say that at least 375 of our 480 mills are in operation.

In regard to wages—I hear much about English pauper wages. That cannot apply to tin plate workers. The Welsh tin plate worker is limited to 36 boxes of tin plate per day—a big day's work—and gets \$20; the American manufacturer has the failing all other Americans have of crushing the workman by making him produce too much. He turns out 52 boxes per day under health robbing pressure and gets \$36. My opinion is that the cheaper prices of Wales serve to bring the Welsh \$20 and the

American \$36 to about an equal point. It is a fact that the value of the dollar is represented only by the amount of food, goods and commodities it will purchase, and the Welsh dollar will discount the American dollar in that respect. Therefore I would say the American workman in the long run does not realize any greater saving, while, on the other hand, pressed to the limit of endurance, while he creates with his hands he tears down his health with his overapplication and strain.

The party will sail for Japan on May 7. Their efforts in the Orient are to be devoted to the fostering of an extended use of Welsh tin plate in that part of the world, particularly in Japan and China.

## TIN SCRAP AND ITS USES.

BY C. P. T.

In the manufacture of tinware from tin plate throughout the United States a very large quantity of the above article is produced and marketed as scrap in different forms: The miscellaneous and irregular sizes when for export are put up in bales or bundles, strongly wired, the steamship companies declining to receive packages unless so delivered to them, but for domestic market it is acceptable to buyers loose or in bulk. The foreign demand for this product for the past few years has been very active and manufacturers were able to realize excellent prices until the past few months, when values experienced a severe drop, exporters having reduced their offers owing to the slow sale of the steel plate after the tin had been extracted, and at the present time an estimated stock of this plate of 3000 to 4000 tons is in the hands of smelters in Germany.

The process of extracting the tin from the plate has been successfully solved by the Germans, and undoubtedly will justify them in contracting as heavily as heretofore on this side for the scrap and at better than prevailing prices, as soon as an improvement is noted in the demand for the steel plate. A great deal of money has been spent on experiments in this country in endeavoring to accomplish successfully the separation of the tin from the plate, but up to the present time all efforts have proven more or less unsuccessful. The domestic demand for the product emanates from sash weight manufacturers, who use it in the manufacture of sash weights, and who, as stated, purchase it in bulk at sellers' works.

The present market is \$2 to \$2.50 per gross ton, at which figure both home and foreign buyers appear inclined to make year contracts or take fair sized lots for prompt delivery, these prices showing a decline of \$2 to \$2.50 per ton, compared with the average ruling values of the years 1896 and 1897.

The above applies entirely to the miscellaneous sizes and cuttings. The other two additional grades of the product are known as blanks or circles and strips, the former varying from  $\frac{1}{2}$  to  $2\frac{1}{4}$  inches diameter, and are salable at  $\frac{1}{2}$  to  $1\frac{1}{2}$  cents per pound. The strips are of various lengths and  $\frac{1}{4}$  to  $2\frac{1}{2}$  inches wide, and find a ready market from 1 to 2 cents per pound, according to sizes. There is always a good demand covering these two lines, novelty manufacturers, toy manufacturers and button manufacturers throughout the country being large consumers of them.

It is interesting to note how the tinware manufacturers dispose of these by-products, being in great contrast to some years ago, when the miscellaneous and light scrap was actually presented to any one who would remove it from their works.

Vice-President John F. Hazen of the American Tin Plate Company visited the trade in New York this week.



## TIN PLATES ON THE PACIFIC COAST.

A San Francisco (Cal.) correspondent writes as follows, under date of April 11, regarding the tin plate market on the Pacific Coast: There should be considerable activity in the tin plate market at present, but there is not. It is now the fishing season on the Columbia, which turns out a spring catch of 350,000 to 450,000 cases every year. There is a good deal of tin plate used in this part of the salmon packing business, although it has now sunk to a place, as far as quantity is concerned, second to both British Columbia and Alaska. But as a matter of fact most of the companies have laid in their purchases ahead of time and there is very little done this year through brokers. It is now claimed that the fruit crop will be short and that there will be a less demand for tin plate from this source, but I think that we will have a large enough fruit crop and quite sufficient for packers to handle. There may be better prices for both growers and packers, and this will be cause for unfeigned rejoicing. I predict that there will be a much larger demand for tin plate this year than ever before. The arrivals of late by sea have been light, having been confined to a few small consignments by the Sound and the Oregon steamers. A good deal has arrived by rail during the first quarter of the year. The market is lower than it ever was before at this time of year—\$3.50 for American coke and \$4.25 for English. As I explained before, the latter is used in making cans where the fish is to be exported to England or Australia, or for the British Columbia canneries. Pig tin will be largely in demand this year, too. It remains without change in price.

### A Tin Mine Story.

The current number of the *Cosmopolitan* has an article by Charles M. Dobson on "Mine Salting," in which a curious story is told about the South Dakota tin mines.

"A tin mine in South Dakota, near Harney Peak," it says, "was for sale, and some English capitalists were investigating. Many tons of the finest cassiterite ore were dug from the claim. It surpassed in richness the better grades of Cornish ore. A carload was taken to the smelter and proved to be all that could be wished. The property was bought and the money was paid down. Sixty tons of cassiterite were mined, and not an ounce more, for the whole 60 tons had been bought, selected Cornish ore, then shipped to the lonely spot and dumped into the gulch and covered up some five years before."

The publication of this story is said to have aroused much interest in the West. Commenting upon it, the *Journal of Lincoln, Neb.*, remarks that this seems to be as plausible an explanation as any yet brought forward of the great tin mine mystery that has perplexed the people of the West for half a dozen years. It was supposed for a long time that the mines were closed down because the owners wanted to get possession of a large number of rich claims adjoining held by private parties. Poor men went through years of privation to keep these claims, firmly believing that if they could only hold on the big company would one day proceed to develop the mines and pay fortunes for every claim in the neighborhood.

### History of an Old House.

The business of N. & G. Taylor Company, Philadelphia, was established by the grandparents of the present members of the firm in 1810, by William Taylor, George Taylor and Tracy Taylor, who were all natives of Connecticut, William Taylor serving in the militia of that State in the War of 1812. The business was then described as "Dealers in Tin Plates and Sheet Iron Workers," "Supplies and Ironmongery," in the northeastern part of Philadelphia in the Kensington district. In 1816 Tracy Taylor retired and George Taylor and William Taylor continued the business under the name of G. & W. Taylor, and on October 7, 1816, moved into the heart of the city, at 89 North Front street. The next change of location was to the extensive premises still occupied by them on Branch street and

Third and Vine. In 1845 William and George Taylor both retired and were succeeded by their sons, Nathan Taylor and George E. Taylor, the parents of the present members of the firm. The name was then changed to N. & G. Taylor, under which name it continued until the death of Nathan Taylor in 1861, when, wishing to continue the same name of the firm, the Company was simply added to it, and it has continued under that name ever since. George Taylor died in 1882. The present partners are Nathan A. Taylor, G. W. B. Taylor and H. W. Taylor.

### SCRAP.

It is reported that satisfactory arrangements have been made with local capitalists for the establishment of a Tin Plate works at Monongahela City, Pa. The site for the works has been secured and it is understood that the necessary capital to build and start the plant has been pledged.

The Ohio River Sheet & Tin Plate Company, Remington Station, Pa., contemplate making a large addition to their plant in the near future. The present output of the works is Black Plate for tinning and fine Sheet Iron.

The British Board of Trade returns for the month of March last show the total exports of Tin Plate from Great Britain to the United States in the third month of 1898 to have been 7293 tons, as against 8924 tons in February, 1898, and 10,358 tons in March of last year. The total of British Tin Plate exports to this country in the first quarter of 1898 is 25,040 tons, as compared with 28,846 tons in the corresponding period of last year, a decrease of 13 per cent.

The present indications are that the canning trade of the country will consume a much larger volume of Tin Plate this year than last season, probable war to the contrary notwithstanding.

It is hoped that operations will be resumed in full at the Tin Plate works of E. Morewood & Co., Llanelly, South Wales, as soon as the reorganization of the business under the liquidator and the stock taking, &c., have been completed, which will be early next month.

The Pittsburgh Tin Plate Works, New Kensington, Pa., have bought 5 acres of ground adjoining their mills with the view of enlarging the capacity of the plant. The company now have six mills, having doubled their capacity last summer. They contemplate doubling it again by the erection of six more mills on the ground recently acquired.

W. C. Nimmo & Co., 32 South Calvert street, Baltimore, Md., in a circular letter to the trade give notice that they have acquired and will in the future conduct at the address mentioned the business of the late firm of Nimmo & Keech. All accounts due to the firm of Nimmo & Keech will be payable to the new company. W. C. Nimmo & Co. announce also that they have enlarged their facilities and increased their stock of Tin Plates and Metals and Tinsmiths', Roofers' and Stove Men's Supplies and are prepared to fill all orders promptly and satisfactorily. The firm are distributing a neat advertising souvenir in the form of a handy little 36-inch tape measure for the vest pocket, which will not fail of appreciation by the recipients.

A general strike of miners in the South Wales coal region has caused a tie up of most of the Welsh Tin Plate works for lack of fuel.

A particularly regrettable feature of the fire which gutted the offices of W. I. Russell & Co., 2 Burling slip, New York, this week, was the total destruction of a valuable collection of pig tin statistics compiled by Mr. Russell during many years' connection with this branch of the metal trade. They formed a unique record of the pig tin market which probably cannot be replaced.

An exhibition of acetylene gas apparatus will be held at the Imperial Institute in London at an early date, and a committee has been appointed to lay down rules for the admission of apparatus in order to insure proper conditions of safety.

An invitation was extended to *The Metal Worker* to attend the closing exercises of the Hillyer Institute of the Young Men's Christian Association, Hartford, Conn., which took place Friday evening, April 22, in Jewell Hall, Hartford. Certificates were to be awarded to graduates from the trade and educational classes of the Institute and an exhibit of the work of the classes made.

The importation of gold into the United States from abroad has reached \$65,000,000 within the past two months.



# STOVE TRADE NOTES.

## The Convention of the National Association of Stove Manufacturers.

The committee having in charge the entertainment of the visitors to the convention of the National Association of Stove Manufacturers, to be held in Philadelphia Wednesday and Thursday, May 11 and 12 next, have arranged the following programme of entertainment:

*Wednesday Afternoon.*—A matinee theatre party for the ladies.

*Wednesday Evening.*—A smoker at the Hotel Walton. The large and handsome assembly room on the tenth floor of the hotel will be used on this occasion, and the entertainment will commence at 9 o'clock sharp. The programme for the evening is a long one and includes selections by 15 performers especially engaged for the affair.

*Thursday Morning.*—On this day there will be a trip to Atlantic City, without doubt the most popular seashore resort in the country. A special train will leave Broad Street Station at 9.30 a.m., arriving at the seashore at 11 o'clock. The party will be entertained at dinner at the Hotel Windsor, foot of Illinois avenue, at 2 o'clock, and the return train will leave Atlantic City at 6 o'clock. There will be no ladies taken on this excursion. Early in the day the lady visitors will be taken on tally-ho coaches for a trip through Fairmount Park, visiting the Art Gallery, Horticultural Hall and the various points of interest for which the park is famed. It may not be generally known that next to the Windsor and Epping forests in England, which are really parks, and the Prater in Vienna, the Philadelphia park is the largest in the world. The total distance of its main driveway is something like 13 miles, and runs along the banks of the Schuylkill River and the romantic and ever lovely Wissahickon, presenting a variety of scenery hardly to be surpassed anywhere. The route mapped out for the drive will include the finest portions of the main drive and a halt at Indian Rock for dinner. This will be an all day trip and one which cannot fail to bring enjoyment to those who take it.

*Friday.*—Many of the visitors will devote this day to seeing the city and visiting the different stove foundries and other industrial works. In the afternoon the directorate of the Philadelphia Commercial Museums will receive the visitors at the Museums and show them through the institution, explaining the workings of each department and the methods employed for introducing American goods to foreign markets.

Through the courtesy of the Bell Telephone Company the visitors are accorded free use of the company's long distance telephone service before 9 a.m. and after 6 p.m. during the convention.

The Entertainment Committee comprises the following gentlemen:

*Chairman,* W. S. Stevenson, Thomas, Roberts, Stevenson Company, Philadelphia.

*Secretary,* W. G. McDowell, Leibbrandt & McDowell Stove Company, Philadelphia.

Franklin L. Sheppard, Isaac A. Sheppard & Co., Philadelphia.

Wm. Thomson, Orr, Painter & Co., Reading, Pa.

H. M. Ebert, March-Brownback Stove Company, Pottstown, Pa.

T. Darl. Buckwalter, Buckwalter Stove Company, Royersford, Pa.

M. B. McKnight, Mt. Penn Stove Works, Reading, Pa.

Geo. Wagoner, Floyd, Wells & Co., Royersford, Pa.

Hy. Landenberger, Chas. Noble & Co., Philadelphia.

A. C. Mott, Abram Cox Stove Company, Philadelphia.

John A. Lansing, Scranton Stove Works, Scranton, Pa.

W. R. Butler, Lehigh Stove & Mfg. Company, Lehigh, Pa.

F. Leibbrandt, Leibbrandt & McDowell Stove Company, Philadelphia.

J. B. Borden, B. C. Borden & Bro., Philadelphia.

J. K. Bougher and Howard Evans, J. W. Paxson Company, Philadelphia.

### Col. John H. Hyatt

Col. John H. Hyatt, at one time prominent in the stove trade, died on Tuesday, April 12, at his residence at Peekskill, N. Y., at the advanced age of 83 years, from heart disease. He was born in Peekskill and had always lived there. He was educated at the public schools, learned the trade of a molder, and then with Washington Whitney built what is now known as the Southard & Robinson Foundry. This plant was afterward sold to Thomas Southard and Colonel Hyatt became a partner. Then he sold out his interest to Thomas Southard and started the Peach Orchard Foundry, on Water street, which later he sold out to Isaac T. Montrose and others. He also learned the trade of a carpenter and builder and became an architect and builder of considerable repute. In 1873 he was appointed General Inspector in the Building Department of New York City, and for 11 years held a responsible position in that department. Under his administration many reforms were inaugurated. In 1884, at the age of 70 years, he retired. He was Alderman in Peekskill in 1844 and 1851, and had also been Assessor and Tax Collector several terms. In 1836 he married Hester Spock, who still survives him, after a married life of nearly 62 years. Three daughters are also living. Colonel Hyatt's military record was one of which he was very proud. In 1838 he first enlisted in a regiment of artillery stationed in New York, at Fort Gansevoort, as a private. He rose by gradual stages, and June 24, 1864, he was commissioned Colonel by Governor Fenton. In 1854 he organized what was known as the Bleakley Rifles, which became a famous military company before the war. During the rebellion Colonel Hyatt saw much service. He was one of the oldest Free Masons in the State of New York.

### The Detroit Galvanizing & Sheet Metal Works,

Detroit, Mich., have moved from their old location on Cass street to their new and larger quarters on Woodward avenue and Railroad crossing, where they are in very much better shape to handle the business which has been growing rapidly during the last few years. Their present factory is modern in all respects and gives them over four times the room they previously had. The building is 325 feet in length and 120 feet wide, and occupies the block bounded by Woodward, Cass, Baltimore and Railroad streets. The main building is three stories in height, of brick, 40 x 325 feet in size, with an addition of 80 x 180 feet, in one story. The power is derived from a 125 horse-power Buckeye engine coupled to an 80-kilowatt generator from which the electrical power is transmitted to motors in different parts of the works.

The building is provided with tracks running lengthwise and crossways for the convenient handling of material and manufactured goods. The location is on the lines of three different railroads and is also on the Belt Line, and there is a siding running direct to the door, so that the shipping facilities are as good as it is possible to have them. The building is provided with cranes and overhead tracks, so that a steel range or case of goods can

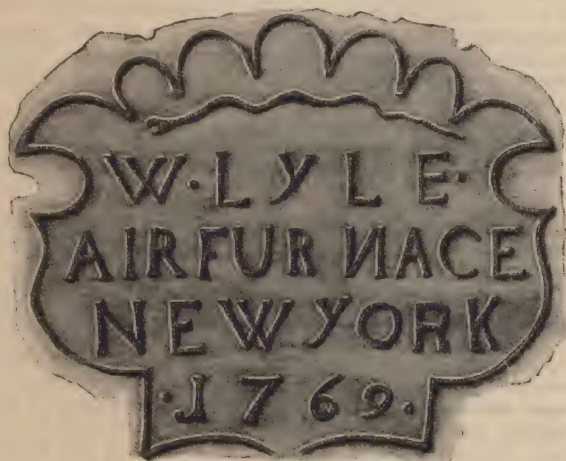


be run into a car by one man. Another convenient feature is the ease with which they can handle sheet iron and tin plate, and in fact material of all kinds, for the trucks can enter the building loaded, drive to the iron piles and unload after weighing the entire load on the wagon scales. In addition to the very much improved facilities so far as building is concerned, they have also added largely to their equipment, having put in four new presses, many new tools and machines in the machine shop and a nickel plating plant. By reason of the new works and enlarged facilities their capacity this year is estimated at 50,000 stoves.

## Who Knows Where This Casting Came From?

A correspondent in New York City has unearthed a piece of cast iron that some one ought to know the history of. We shall be very glad to hear from any one who can give any information about it. We have made a sketch from the rubbing sent by our correspondent, whose letter is as follows:

Here is a chance for Ike Thompson, J. D. Ottiwell and others of the old boys and antiquarians in the trade among



*Who Knows Where this Casting Came From?*

your readers to show their knowledge of the ancient history of furnaces in this great town of ours. I found a cast iron plate in a fire place of a very old house in the lower east side. The plate is  $\frac{3}{4}$  inch thick, 34 inches wide and  $27\frac{1}{2}$  inches high, and in the center near the top is a shield. I was interested at once, and cleaning away the dust from it I traced the lines of the shield and letters with a blue pencil, and took an impression of the shield and its inscription, which I send you. The wavy line on top of the inscription is evidently a snake (I am strictly temperate). I take the liberty of inclosing the paper, feeling sure it will interest you and your readers.

## The Perfect French Ranges.

An attractive display which is receiving a great deal of attention in the trade is made by the Richardson & Boynton Company, in their New York show room at 232 and 234 Water street. The center of the floor is occupied by a line of their new steel French ranges that bear the name Perfect, which is well known in the trade in connection with their goods. The Perfect steel range is handsome, the workmanship excellent, and as the ranges have been submitted to the test of actual use the operation is thoroughly satisfactory.

The front of the range is made ornamental by the design of the cast iron doors and trimmings, the name plate on the oven door being a handsome scroll nickel plate. The feed door both drops and swings and is large in size. The dockash grate is used and arranged to be readily withdrawn from the range without disturbing the lining. A feature of the range is the removable oven which gives access to the flues for cleaning, and is easily renewed when necessary. Water backs, reservoirs, hot closets, high shelves and backs, with every provision for convenience in use and for durability, are discovered on examination. The ranges are constructed of heavy cold

rolled steel plates with asbestos lining between, and are finished flat and smooth without a buckle.

The company are issuing a 16-page booklet illustrated with half-tone engravings showing the range, which is designed for fine residences and custom trade and adapted for setting between jambs or against an enameled brick back, which is a growing custom.

## Some Correspondence in Verse.

Smith & Peterson, Menominee, Mich., lately sent to Buck's Stove & Range Company, St. Louis, a mounted buck's head, and with it a rhymed letter which we reprint:

Kindly accept from us this head

'Tis the symbol of "peace," you know;

As a token of luck we send you this Buck

From the land of the pine tree and snow.

Our forests are fast being cut to the ground,

And the deer will have soon passed away;

But, thanks to good luck, we still have the "Buck,"

'Tis the kind we are selling each day.

Then here is to you, and the men you employ;

Which, of course, includes Gauff (our old friend).

May peace and good luck, which go with the "Buck,"

Remain with you all to the end.

On receipt of this handsome present Buck's Stove & Range Company had an artist prepare a very handsome sketch showing an Indian in full hunting dress leaning against the trunk of a tree and gazing out into what is supposed to represent a lake. At the feet of the Indian lies a giant buck which he has just shot. The drawing is a pen and ink sketch beautifully done and harmoniously colored, and with it is the following poem, the whole making a graceful and suitable reply to Messrs. Smith & Peterson's letter:

In the bleak and chilly northland,

In the land of ice and snow,

When the pines were unmolested,

And the Indian drew the bow—

Long before the Pilgrim fathers

Blazed the way through forest drear,

Then there roamed those antlered beauties

Giant moose, and elk, and deer.

One by one the Indians slew them,

One by one they disappeared;

Driven deeper in the forest

From the wasteland, wild and weird,

Till at last they grew so wary

Hunters stalked a month for one,

And that ghost of Pau-pau-kee wis

Fled from sound of white man's gun.

As these monarchs of the forest,

Scarce and ever scarcer grew,

Another Buck in the horizon

Burst refulgent on the view.

Then those mighty men of prowess

In the wilds of Michigan,

Smith, and Peterson, his partner,

In the hardware trade began:

Chased the bubble reputation,

Worked and slaved both night and day

Till they found Buck's Stoves and Ranges,

Then began to make it pay.

Boxed a Buck's head, sent it dead head

From that land of stumpy groves,

Sent it down to old St. Louis

To the men who make Buck's Stoves;

Where it poses in their office,

Gazing with an air benign

On those men of steel and iron

And the "White Enamel Line."

## Round Oak Furnaces.

The Estate of P. D. Beckwith, Dowagiac, Mich., has issued a catalogue of Round Oak furnaces which we venture to say will be read through by every furnaceman into whose hands it falls. The appearance of the catalogue is so attractive and its general arrangement is so striking that it cannot fail to rivet the interest of the reader from start to finish. A sentence on the title page is very significant, "Just as good a furnace as the Round Oak is a stove." The trade will understand perfectly what this means.

The Round Oak furnace is made in two series with a return flue—namely, a regular and a low series, the latter being intended for low cellars or basements. In each of these series six different sizes are furnished, covering a very wide range of capacity. A water combination is also made, however, which can be attached to any of



these sizes, thus giving a still greater range of capacity. The water combination can be used to heat distant rooms or rooms difficult to reach with hot air flues, or it can be used to heat water in kitchen tanks, being made in such a manner that its capacity can be adjusted to the service required. The ash pit or furnace bottom in these furnaces is one solid single piece casting, the ash pit door being ground on air tight. A triangular revolving grate is used, which can easily be withdrawn if repairs are needed. Feed doors are extra large. The dome is made in one single piece casting. The horizontal return flue is made in the form of a horseshoe and placed just above the ash pit.

All furnaces are equipped with a special hot blast attachment, to supply the necessary amount of air to secure perfect combustion. Any kind of fuel can be used—hard or soft coal or wood. A direct draft line of furnaces is made under the name of Junior. Full directions are given for setting, together with samples of estimate sheets. The catalogue comprises 48 pages.

## MOLDERS' WAGES SETTLED.

The Conference Committee of the Stove Founders' National Defense Association met with the corresponding committee of the Iron Molders' Union of North America in Chicago on the 14th and 15th inst. The members of the former are Chauncey H. Castle of Quincy, Henry Cribben of Chicago, E. W. Peck of Rochester, Jeremiah Dwyer of Detroit, George H. Holland of St. Louis, A. C. Mott of Philadelphia and T. J. Hogan of Chicago. The members of the latter are Martin Fox of Cincinnati, Martin Monahan of Albany, Mr. Gray of Quincy and Mr. O'Neill of Detroit. The labor situation was thoroughly discussed, but no changes were made in the wages of molders as prevailing for several years. The contract for the past year was renewed for the coming 12 months in all foundries in the United States covered by the Defense Association. This means no labor dispute in the stove trade, unless it happens in some foundry not connected with this organization.

## ODD PLATES.

The National Association of Stove Manufacturers have had large annual conventions in all recent years, but Secretary T. J. Hogan firmly believes that the convention to be held in Philadelphia the second week in May will be larger than ever. He has received up to the present time considerably more responses than at the corresponding time last year. The social features will undoubtedly draw many manufacturers who would not be inclined to attend if the meeting was one wholly devoted to practical business. A programme, however, is being prepared for the consideration of the members which is expected to prove so interesting that it will be productive of valuable results to those in attendance. One of the most important topics of discussion will be "Costs." A number of the members will prepare themselves in advance to contribute to this discussion from their own standpoint.

The Hio Furnace Company have been organized at Jackson, Mich., with a capital stock of \$10,000. The incorporators and stockholders are Herbert A. Hodge, Frank Gary, J. N. La Due and J. S. Hutchinson. The company are located in the old Bennett foundry on Pearl street and their castings will be made by the Co-operative Foundry Company.

Wm. H. Whitehead, for many years president of the Chicago & Erie Stove Company, has just returned to Chicago from a long sojourn in Georgia and Florida, whither he had gone for the benefit of his health. He experienced a radical improvement from the change of climate.

The Michigan Stove Company have issued a special trade edition of their *Garland Magazine*. It consists of 12 broad pages, beautifully printed and magnificently illustrated. The contents consist of the description of their Stove plant at Detroit which appeared in *The Iron Age* some time since, a description of the company's Chicago house given in *Stoves and Hardware*, and illustrations and details of their three distinct lines of Steel Ranges—namely, Columbian-Garland, Ideal-Garland, Jr., and Empire-Garland, Jr. They are also distributing a circular giving full details of a new first-class Oak Stove named New Oak-Garland and a new medium grade Oak Stove named Oak-Garland, Jr. The pictures of these Stoves show them to be of handsome design.

F. & L. Kahn & Bros., manufacturers of Estate Stoves and Ranges, Hamilton, Ohio, as we announced two weeks ago, are about to erect additional buildings, for which plans have been prepared. One will probably be 60 x 180 feet, five stories in height, of which the first and second floors will be intended as an addition to the present mounting and nickel plating departments and the three upper floors for storage. The north end of the first floor may be arranged for a new office. The other building is required for a new steam plant and is 40 x 42 feet, one story high. The buildings now in use comprise an extensive establishment, having a floor space aggregating 210,000 square feet. The additional space to be secured will greatly increase the firm's manufacturing facilities.

The Chicago branch of the Brand Stove Company will be removed May 1 from 183 Lake street to 175 and 177 Lake street, a few doors east of the present location.

A New England official in speaking of heating systems makes an amusing exhibition in his endeavor to traduce a method of heating that is well established in the popular favor. "There are five hot air furnaces running in full blast. If any scholar lives to graduate from that building he will be acclimated to any country he may wish to go to. The building is so constructed that there is Klondike on one end, Florida on the other and hell in the basement. Then sometimes during the winter the furnaces work so well that the teachers have to dismiss the school and let the children go skating to keep warm."

John P. Ley, 239 Water street, the New York representative of Chas. Noble & Co., Philadelphia, has his show room attractively arranged with the Quick Meal line of Gasoline and Blue Flame Oil Stoves and Ovens. He invites the trade to call and examine his goods, which have many conveniences that will help their sale.

H. Gilbert Hart of the Hart & Crouse Company, Utica, N. Y., visited New York this week, satisfied with the demands made on their foundry for the Royal Hot Air Furnaces.

A good trade is reported on the Bay State Ranges by Judson A. Goodrich, manager of the New York office of the Barstow Stove Company.

Carey A. Moore, representing Charles C. Heath & Co., Baltimore, Md., reports that during the first week in January he sold 1000 Reliable Gasoline Junior Stoves in the city of Baltimore. From the sale of that lot 400 more were sold the next week, the total being, it is stated, the largest sale made in Baltimore city at the opening of the summer goods trade. Mr. Moore advises us that he believes the old gasoline trade is returning in the larger towns, while the smaller towns are increasing their trade in Blue Flame Oil Stoves.

A dispatch from Sharpsburg, Pa., reports that the Walters Stove Company have been incorporated, with a capital stock of \$25,000.

The Craig-Reynolds Foundry Company, Dayton, Ohio, are rapidly recovering from the effects of the conflagration and floods that their establishment was subjected to recently, and state that they are now in position to fill all orders promptly for furnaces, combination steam and hot water heating apparatus and the Triumph acetylene gas machine, for which latter a good demand has been created.

Lewis & Wanner, manufacturers of Peerless Steel Ranges at 71 West Jackson Boulevard, Chicago, have incorporated under the name of Peerless Steel Range Works with an authorized capital stock of \$10,000.

Referring to the patent litigation mentioned in *The Metal Worker* of April 9, we would state that the Michigan Stove Company have not yet accepted the decision of the Circuit Court of Appeals as a finality, but are considering the advisability of carrying the case to the Supreme Court, which can be done if they so elect. This is given as information to the trade, and not in any spirit of hostility to the Fuller-Warren Company. Each phase of this litigation has been given to our readers as it developed, and should anything further occur it will receive the same impartial treatment.

The patterns, follow boards and patents of the Sectional Stove Company are for sale by the Forest City Foundry Company, Cleveland, Ohio, whose advertisement appears in this issue.

The Philadelphia Board of Education have decided to rename the Northeast Manual Training School of that city the Isaac A. Sheppard Manual Training School, in honor of the former president of the board. The school in question owes its establishment to the generosity of the late Isaac A. Sheppard, the well-known Philadelphia stove manufacturer, who, when the City Councils declined to furnish the means, himself provided the necessary funds, being subsequently reimbursed by the city. The subject of manual and trade training was one in which Mr. Sheppard was greatly interested and one to which he was always ready to lend his countenance.



The Gobeille Pattern Company of Cleveland, Ohio, issue a folder addressed to "the wide-awake stove founder." It is an intimation that there is plenty of time left to improve the stove manufacturer's line, and if anything is wrong with his Patterns now is the time and Cleveland the place to remedy it. The company state that they are not busy enough to prevent their getting out any kind of a job inside of 30 days.

Eugene Munsell & Co. of 218 Water street, New York, and 117-119 Lake street, Chicago, Ill., report a very gratifying demand for their North Carolina Mica, which they can furnish in large quantities to Stove manufacturers and hardware jobbers. As the season for the manufacture of Parlor Stoves is rapidly advancing, the company have increased their stock both at New York and Chicago, and are in position to make quick delivery of all sizes likely to be required by the trade.

The last card issued by Isaac A. Sheppard & Co. of Philadelphia, Pa., relates to the letter the dealer ought to have written long ago and which has not yet been received by the company. The postal card which is being sent out by the concern referring to this matter intimates that the first of every month there is missing from the dealer's books the profits that he might have made on Paragon Furnaces and Excelsior Ranges. As the dealer must sell some kind of a Furnace and some kind of a Range the company ask if there is any good reason why he should not sell the best of each, and if he has any reason to think the Paragon and Excelsior makes are not the best of their respective kinds.

William Duncan, president of the Charter Oak Stove & Range Company, and of the Ludlow-Saylor Wire Company, St. Louis, was seriously injured in the fire which occurred at Sportsman's Park, St. Louis, on Saturday, 16th inst. Mr. Duncan was in the grand stand when the fire broke out, and being hemmed in by the flames was compelled to jump a distance of over 30 feet to the ground, injuring himself internally, in addition to being severely burned. His condition is serious, but his physicians seem to think he will recover. We are sure the trade will join with us in expressing sympathy for Mr. Duncan, and the hope that an early recovery will ensue.

Henry Matern, Sr., a prominent citizen of Sandusky, Ohio, and founder of the Matern Stove & Furnace Company of that city, died at the family home on West Washington street shortly before noon on Sunday, April 10, aged nearly 71 years. Mr. Matern was born in Germany, coming to this country in 1849, and in 1850 locating in Sandusky, where he resided at the time of his death. After several years of industrious work he opened in 1856 a stove and tin store in the city named, which was then nothing more than a little village. In 1889 he organized the Matern Stove & Furnace Company, the extensive interests of which are now managed by his brother, Philip Matern, and son, Henry Matern, Jr.

## THE IRON MARKET.

It is now freely acknowledged that the war has decidedly checked the enormous volume of business which was flowing to the Iron trade. It is true that the specter of a tight money market is ever before the eyes of many. Yet it is a fact that there have been no cancellations of orders, so that the plants have months of work on hand. It is a fact, too, that in a number of branches good new orders are coming up which have no reference whatever to war preparations.

In the Pittsburgh market there has been quite a good movement in Bessemer Pig, the sales aggregating about 40,000 tons, mostly by second hands, to consumers at a little below furnace prices. The effort to bring the Bessemer producers together is progressing.

Steel is easier, but as yet the sales are moderate East and West. Chicago has witnessed quite some heavy buying of Pig Iron.

**Pig Iron.**—The market in the New York district remains very quiet and no sales of importance have been made. There are further reports of transactions in warrants at low prices. We quote as follows: Northern Brands, No. 1, \$11 to \$11.50; No. 2, \$10.50 to \$11; No. 2 Plain, \$10 to \$10.50. Southern Brands, same delivery: No. 1, \$10.75 to \$11.25; No. 2, \$10.25 to \$10.50; No. 1 Soft, \$10.75 to \$11.25; No. 2, \$10.50 to \$11.

Advices from Philadelphia report the Pig Iron market as very dull, and although prices are nominally the same as for two or three weeks past, it is difficult to move round lots unless by conceding something in buyers' favor. The truth of the matter is that there is a falling off in the consumption of Iron, due in part to the countermanding of orders and in part to the unwillingness of capital to enter into new engagements. The volume of business is still very large, but the events of the past few weeks have had a tendency not only to

check expansion, but to cause retrenchment, which if continued will undoubtedly have serious consequences as regards the Pig Iron interests. The outlook is very much beclouded, and while the best is hoped for, it must be conceded that encouraging features are not numerous at the moment. The regular quoted rates for seaboard are about as follows, with the usual rebate according to freight at points within a radius of 100 miles south or west: No. 1 X Foundry, \$11.75 to \$12; No. 2 X Foundry, \$10.75 to \$11; No. 2 Plain, \$10.25 to \$10.40.

A very good demand has been experienced in Chicago for Lake Superior Charcoal Iron. The very low price at which this kind of Iron has been recently selling has proved quite tempting to buyers, but the large demand has caused several makers to advance their prices. Good transactions have also taken place in Southern Coke. The aggregate business was not so large as during the previous week, but nevertheless sales covered a very respectable quantity. The price of Southern brands is 65c. to \$1 per ton lower than corresponding grades of Northern Iron. Prices of Southern brands it would appear might easily be advanced 50c. per ton. The outlook for future business is very encouraging, inquiries being excellent. We quote for cash as follows:

Lake Superior Charcoal.....	\$11.50 to \$13.00
Local Coke Foundry, No. 1.....	11.50 to 12.50
Local Coke Foundry, No. 2.....	11.00 to 12.00
Local Coke Foundry, No. 3.....	10.50 to 11.50
Local Scotch, No. 1.....	11.50 to 13.00
Ohio Strong Softeners, No. 1.....	12.00 to 12.25
Southern Silvery.....	11.25 to 11.50
Southern Coke, No. 1.....	10.85 to 11.00
Southern Coke, No. 2.....	10.35 to 10.70
Southern Coke, No. 3.....	10.10 to 10.40
Southern, No. 1 Soft.....	10.60 to 11.00
Southern, No. 2 Soft.....	10.35 to 10.70

In the Pittsburgh district there have been sales of about 40,000 tons of Bessemer Pig by middlemen to consumers at prices ranging from \$9.75 to \$9.85, Valley furnace, for April, May and June delivery. Prompt Bessemer Iron has sold as low as \$9.65, Valley furnace, for small lots in hands of middlemen. There is very little doing in Foundry Iron. We quote, f.o.b. Pittsburgh: No. 1 Foundry, \$10.50; No. 2 Foundry, \$10; Bessemer, \$10.40 to \$10.50, depending on delivery.

In the Cincinnati district the volume of new business in Southern Pig Iron was perhaps somewhat larger the past week than it was the week before. There was some increase in the run of small orders with a few special sales to help swell the total. There are also a few more inquirers feeling around, and it looks as though business might continue to show a very moderate improvement. It is very hard to arrive at facts regarding prices at which the Iron is being sold, but the general feeling is that the situation still favors the buyer as against full schedule quotations. A lot of 200 tons No. 2 Foundry, for Ohio delivery, on which there was a pretty sharp competition, is understood to have been taken at very close to \$7, Birmingham, basis; also 2000 to 3000 tons Foundry Iron was placed at Louisville on about the same basis. We quote, f.o.b. Cincinnati:

Southern Coke, No. 1.....	\$9.75 to \$10.00
Southern Coke, No. 2.....	9.25 to 9.50
Southern Coke, No. 3.....	9.00 to 9.25
Southern Coke, No. 1 Soft.....	9.50 to 9.75
Southern Coke, No. 2 Soft.....	9.25 to 9.50
Southern Coke, Gray Forge.....	8.50 to 8.75
Southern Coke, Mottled.....	8.50 to 8.75
Ohio Silvery, No. 1.....	12.00 to 12.50
Ohio Silvery, No. 2.....	11.50 to 12.00
Lake Superior Coke, No. 1.....	11.00 to 11.50
Lake Superior Coke, No. 2.....	10.50 to 11.00

The St. Louis Pig Iron market is quite dull. Prices are weak, and while not notably lower consumers are able to pick up some very fair bargains from furnaces who are anxious for business. The market is particularly bare of inquiries calling for any large quantities and sales of from 100 to 200 tons seem to be the limit. We quote as follows for cash, f.o.b. cars St. Louis:

Southern, No. 1 Foundry.....	\$10.00 to \$10.50
Southern, No. 2 Foundry.....	9.75 to 10.00
Southern, No. 3 Foundry.....	9.50 to 9.75
No. 1 Soft.....	9.75 to 10.00
No. 2 Soft.....	9.50 to 9.75

Having on a former trip to Europe established agencies in the prominent capitals, Christ. Wais, president of the Wais & Roos Punch & Shear Company of Cincinnati, Ohio, sailed recently for another visit to instruct and help introduce their line of tools, so as to in part overcome the prejudice held by operators of our special machines arising from lack of instruction as to their best use. He will, perhaps, be absent about two months.

A newly formed concern, under the title of the United States Carbide Company, are reported to have absorbed the entire carbide business of this country, having acquired all the patents, some 50 in number, under which the manufacture of calcic carbide for acetylene gas is conducted.



# TRADE REPORT.

## METAL MARKET.

**Pig Tin.**—There was a steady market, and although the demand could not be termed brisk the fact that the arrivals up to this time have not been sufficient to supply the average consumptive requirements has permitted the holders of spot goods to hold out for the present prices. Steamers which should have been here ere this are not now expected until the first of next month. The arrivals up to date are 1285 tons, according to the compilation of the Metal Exchange. Prices remain very firm at last week's level, and the consumptive demand is well up to the average. Jobbers quote Straits Pig in small lots at 15¼c. to 15½c. per lb.

**Copper.**—The market here is firm and higher, and spot Copper of every description is very scarce. No large sales have been made during the week, but the steady consumptive demand is great. Consumers are clamoring for earlier deliveries on goods bought several weeks ago for May deliveries. Parties who bought Copper for delivery in the later and middle part of May are begging for its shipment by the first of the month. The European markets, as well as the domestic, are very strong and indicate further advance in prices. London quotations advanced sharply during the week, showing that the foreign market has acknowledged our firmness here and found it necessary to meet it. It has also been stated that London's change may have been affected by the expectation that Spain will have to raise the export duty on Copper to a high figure in case of hostilities with this country. Electrolytic Copper is very scarce. In consequence it has attained a very firm tone and prices have advanced. Great quantities of it have been sold indirectly to the Government, and one large concern are "cleaned up" entirely. Casting Stock has experienced the same change. Exports of Copper during the current month have been very heavy. Jobbers hold prices on small lots from stock very firmly at 13¼c. per lb. for Lake Ingot, and 12½c. for Ansonia Grade Casting.

John Stanton reports the Copper production in the United States and of the foreign reporting mines and United States exports as follows, in gross tons of 2240 pounds:

Reporting mines.	Outside sources.	Total U. S. product.	Product foreign mines.	U. S. exports.
First half 1895....	70,612	79,712	42,484	34,215
Second half 1895....	84,885	91,485	43,674	30,507
Total 1895....	155,497	171,197	86,178	64,722
First half 1896....	94,180	101,380	42,255	58,216
Second half 1896....	95,314	102,514	43,941	67,287
Total 1896....	189,494	203,894	86,196	125,503
First half 1897....	103,651	108,651	44,263	64,870
Second half 1897....	100,553	107,455	44,007	64,340
Total 1897....	204,206	216,106	88,270	129,210
January, 1898....	16,544	17,744	5,556	11,030
February, 1898....	16,072	17,322	7,303	9,611
March, 1898....	19,131	20,381	7,121	13,714

**Sheet Copper.**—Further requests for delay in deliveries on old contracts and a falling off in the volume of spot orders as well as in inquiry testify to the depressing effect of the warlike situation on general business and particularly in the building industries. Nevertheless the amount of sales so far this month have been well up to normal for the season, and prices, in sympathy with the advance in raw material, are very firm on a basis of 16c. per lb. for Sheet Copper in retail quantities.

**Pig Lead.**—This metal has taken a decided drop, and the market was very weak during the entire week, although a little more inquiry at the close indicated the possibility of an improvement. The opinions regarding the effect which war will have on this metal differ very much. The producers seem to think it will result unfavorably for them and they are free sellers. In a retail way, business was of ordinary type, and jobbers reduced their quotations a shade. American Pig in small lots from stock rule at 4c. to 4½c. per lb.

St. Louis advices are as follows: This metal has eased off considerably since our last report, and the market has declined. The demand is light, and stocks are commencing to accumulate somewhat.

**Spelter.**—Although the demand is tame and only ordinary business has been effected, prices for this metal continue quite steady. Jobbers quote good Western brands at 4.65c. to 4¾c. per lb.

St. Louis advices are as follows: There is no change to note in this metal. Buyers are in the market for their

immediate requirements only, and in the absence of any accumulation of stocks the market is easily maintained at recent level.

**Antimony.**—Scarcity of available supplies of this metal has caused a sharp advance in prices during the week, Cookson's having jumped to 9¼c. to 9½c. per lb. for small parcels and Hallett's to 8½c. for similar quantities. The supply of Japanese Antimony in the market is almost exhausted, and prices for this variety are merely nominal in the absence of stocks, though quoted in small lots at 7¼c. to 8c. per lb. The agents in this country for Japanese Antimony state that the scarcity is caused by a temporary suspension of operations in the producing mines. They are understood to be again active, however, and further shipments may be expected to arrive before long.

**Tin Plate.**—An improved tone has been developed in the market during the week under review. Although current business is still dull and but few orders of any importance were placed, a marked revival in inquiry, particularly from the canning trade, testifies to a revival of interest in that quarter and indicates the probability of substantial orders at a not far distant period. The outlook for a good canning season is encouraging, and recent heavy orders placed by the Government for canned goods of various kinds for the army and navy, as well as the large shipments of these goods now going to the Klondike, are steadily depleting the available stocks of canned provisions. Both these channels of consumption, moreover, promise to provide a steady outlet for canned goods for some time to come. The requirements of the canners and can makers for material are thus likely to be unusually large and considerably in excess of the stocks of Tin Plate in hand or contracted for by these interests. On the other hand, it is generally conceded that, in this section at least, the demand for Roofing Plates is extremely disappointing in its steady decrease. This year's business in Ternes is likely to fall short of last year's as far as that fell short of the previous year's business. The growing use of other materials for roofing is given as the reason. Bright Charcoal Tin is moving fairly well. Retail spot orders, though comparatively small in individual amount, make a fairly large aggregate. But little is being bought for stock. Prices may be described as quite firm. Moderate sized quantities of American Plates for spot delivery at New York, Philadelphia and Baltimore are quoted by jobbers about as follows: American Coke Tins, IC, 108 lbs., 14 x 20, Bessemer Steel, \$3.50; do., 100 lbs., \$3.40; do., 95 lbs., \$3.35; do., 90 lbs., \$3.30; American Charcoal Brights, Melyn Grade, IC, 14 x 20, \$4.75; Allaway Grade, IC, 14 x 20, \$4.25; American Charcoal Ternes, IC, 14 x 20, ordinary, \$3.50. Foreign Plates are quiet and unchanged.

Chicago advices are as follows: A sharp demand is experienced for spot Cokes. The market is weak for future delivery, but those who are in possession of stocks are able to get much better prices for quick shipment.

**Sheet Iron.**—The Sheet market is in a fairly satisfactory condition. The mills are still running full time, but deliveries are reducing the amount of work on their books and new orders are hardly up to recent proportions. Those now coming in are usually for small lots and the inquiries are almost entirely for quick deliveries. Very few are for stock orders. The impending war has affected the building trade to a considerable extent in the East and checked orders for Sheets which would otherwise have been placed. Meanwhile prices show no change. Jobbers quote small lots of No. 27 Common Black Sheets at 2.30c. to 2.40c. per lb. and Galvanized Sheets at 80 per cent. off the list.

Chicago advices are as follows: Inquiries for Black Sheets are not numerous, but a few mill agents were fortunate in securing some sizable contracts. Prices appear to be a little stronger. A better demand is noted for Galvanized Sheets. Black Sheets are in good demand from jobbers' stocks, but a better movement is reported in heavy gauges than in very light Sheets. Jobbers continue to quote small lots from stock at 2.30c. to 2.40c. for No. 27 Black and 80 and 2½ to 80 and 5 per cent. off for Galvanized.

**Old Metals.**—A good demand continues for Old Brass and Copper for domestic consumption, but the export business in this line is limited. The demand for Scrap Iron is irregular and prices rather weaker. There is no quotable change, however, from last week's figures.



Yard dealers in this city and vicinity are paying about the following rates for moderate sized lots, delivered here:

Heavy Copper.....	per lb.	9½c.
Light and Tinned Copper.....	per lb.	9¼c.
Heavy Brass.....	per lb.	6½c.
Light Brass.....	per lb.	5¼c.
Lead.....	per lb.	3¼c.
Tea Lead.....	per lb.	3¼c.
Zinc.....	per lb.	3 c.
Zinc Dross in Slabs.....	per lb.	2.85c. to 2.90c.
No. 1 Pewter.....	per lb.	8 c.
No. 2 Pewter.....	per lb.	4¼c.
Wrought Scrap Iron, per gross ton.....		\$8 25
Heavy Cast Scrap, per gross ton.....		8 25
Stove Plate Scrap, per gross ton.....		5.75
Burnt Iron, per gross ton.....		4.25
Tin Plate Scrap, per ton.....		2 25

## CHICAGO REPORT.

Scrap.—Wrought is inclined to weakness, with little doing, but the cheap grades are still in good demand at firm prices. Cast is active and higher. Yard dealers' buying prices are as follows, Chicago delivery:

	Per net ton.	Per lb.
Country Wrought Scrap.....	\$7.00	....
Machinery Cast.....	8.00	....
Malleable Cast.....	7.00	....
Stove Plate (free of burnt).....	6.00	....
Burnt Iron and Grate Bars.....	3.75	....
Sheet Iron and Hoops.....	3.00	....
Plow Steel and Breaking Stock.....	5.00	....
No. 2, such as Shovels, Hoes, &c.....	2.50	....
Old Boilers—whole (Iron).....	3.50	....
Old Boilers (Iron)—cut in single Sheets and Rings.....	6.50	....
Old Gas Pipe and Boiler Tubes.....	6.00	....
Cast Borings.....	3.25	....
Turnings.....	4.50	....
Horseshoes.....	8.50	....
Copper Wire and Heavy.....		10½c.
Copper Bottoms.....		9½c.
Copper Clips.....		10½c.
Red Brass.....		9 c.
Yellow Brass.....		7½c.
Light Brass.....		5½c.
Pipe Lead.....		3 c.
Tea Lead.....		3 c.
Zinc.....		3½c.
Rubber.....		4 c.
Inside Bicycle Tubing.....	10c. to 12c.	
Outside Tubing.....	4c. to 4½c.	
Garden Hose.....	\$10.00 to \$12.00 net ton.	
Air Brake Hose.....	\$20.00 to \$22.00 net ton.	

Anthracite.—Trade is quiet. The prices of carload lots of 12 tons minimum are as follows:

	Grate.	Egg, Sto. and Ch.
Chicago, Ill.....	\$5.00	\$5.25
Milwaukee, Wis.....	5.00	5.25
Kansas City, Mo.....	7.00	7.25
Council Bluffs, Iowa.....	7.00	7.25
Lincoln, Neb.....	7.15	7.40
Sioux City, Iowa.....	7.50	7.75
Aberdeen, S. Dak.....	8.25	8.50
Dubuque, Iowa.....	6.30	6.55
Madison, Wis.....	6.50	6.75
St. Paul, Minn.....	7.50	7.75
Burlington, Iowa.....	6.50	6.75
Des Moines, Iowa.....	7.00	7.25
Davenport, Iowa.....	6.30	6.55
St. Joseph, Mo.....	7.00	7.25
Leavenworth, Kan.....	7.00	7.25
Omaha, Neb.....	7.00	7.25

### Colorado Anthracite.

#### COLORADO FUEL & IRON COMPANY.

Denver.....	\$6.50
Pueblo.....	6.50
Colorado Springs.....	6.50
Leadville.....	6.50
Cheyenne, Wyo.....	7.50
All points between Denver and Missouri River	7.00

Fire completely destroyed the offices of W. I. Russell & Co., Tin merchants, at 2 Burling slip, New York, Wednesday morning, and in fact gutted out the entire building. The fire originated in the rooms of the United States Chemical Mfg. Company, of which Mr. Russell is president. The building is immediately back of the New York Metal Exchange, and as it threatened that building at one time business was suspended for a short period. It took a dozen streams to save the old 'Change building and this was done with but a trifling damage, which was caused by water and smoke only.

Charles W. Hodgdon announces that he has associated himself with Harry A. Spear for the purpose of extending the business of brass finishing and nickel plating carried on by him at 164 High street, Boston. The name of the new firm will be C. W. Hodgdon & Co.

## THE HARDWARE TRADE.

Notwithstanding the agitation caused by foreign complications business throughout the interior continues to move along steadily and in good volume. In some lines the demand is, in fact, so large that something of a scarcity is developed for certain goods, mostly of a seasonal character. Trade has thus in these sections evidently not felt as yet to any great extent the disturbing influences connected with the suggestion of war. In important Eastern markets, however, the probability of war has had for several weeks a decidedly depressing effect on business and the trade are awaiting the course of events with solicitude. The question as to what will be the effect of war upon general trade is one to which business men are giving careful consideration and upon which opinions differ. In view of the uncertainties which encompass the business situation a very conservative disposition prevails. Many of the manufacturers both east and west are meanwhile well occupied with orders, getting the benefit of the activity which characterizes the trade in agricultural States and other exceptionally prosperous sections. Prices, as a rule, are without important change. In some staple lines the market is weak and unsteady. In most kinds of Shelf Hardware and seasonal goods former quotations are without substantial modification.

*Advices from Chicago.*—Trade in Shelf Hardware and related goods has improved and jobbers are as busy as ever. Orders came in much more freely the latter part of last week, and it has again been necessary for packers to be employed at night. A decided scarcity prevails in some lines of goods, notably Poultry Netting and other goods into which Wire enters. The demand for Smooth Galvanized Wire is heavier than ever before known. Difficulty is experienced in securing prompt shipments from mills, even on the base sizes, which are usually in abundant supply. The demand for Tinware and metals contrasts unfavorably with that for Shelf Hardware, being considerably smaller than for several weeks. Heavy Hardware is moderately active, but the demand is spasmodic. Some days trade is very heavy, while on other days it is rather light.

*Advices from St. Louis.*—The demand for Shelf Goods is keeping up remarkably well and shows no immediate signs of falling off. In Builders' Hardware and Supplies the demand is something unprecedented, and it is difficult for jobbers to keep their stocks of these lines in anything like respectable condition. The demand for Tinware and House Furnishing Goods in general is fully up to expectations. Galvanized and Black Sheets are free sellers, and the prospect of an agreement among the Tin Plate manufacturers has had a beneficial effect on the demand for Tin Plate. Prices as a rule are well maintained, and collections are referred to as being very satisfactory.

## NOTES ON PRICES.

*Wire Nails.*—The Wire Nail market is in practically the same condition as a week ago, though perhaps there is a slight reaction from the lowest prices which were then current. The low prices which are current are due to active competition between the consolidated and outside companies and to the fact that the demand from the trade is quite moderate. Merchants are pursuing a conservative course and only buying to meet their immediate requirements. Prices in the New York market are as follows: Carload lots on dock, \$1.45; small lots from store, \$1.55.

*Advices from Chicago.*—The American Steel & Wire Company are moving conservatively, meeting prices made in legitimate competition, but refusing to be influenced by reported sales of small speculative lots which are occasionally pressed on the market. Conflicting views relative to the future are expressed by members of the trade. Meanwhile the demand is quite light, although it is asserted quite positively that stocks are very small throughout the entire distributing trade. Prices are a trifle lower than previously reported. Jobbers quote small lots from stock at \$1.50 to \$1.55, and state that the demand is very much below what it should be when compared with the movement of other goods.

*Advices from St. Louis.*—The market is in a fairly satisfactory condition. The demand for Wire Nails is excellent. Jobbers ask \$1.60, base, for small lots from store.

*Cut Nails.*—There is only a moderate movement in the Cut Nail market, and its tone is not confident or strong. New York prices are as follows: Carloads on dock, \$1.15 to \$1.17½; small lots from store, \$1.25.

*Advices from Chicago.*—The demand for Cut Nails is light, and \$1.35 is now asked for small lots from stock.

*Advices from St. Louis.*—The market is a trifle irregular. Jobbers are selling small lots from store at \$1.35 to \$1.40, base.



**Barb Wire.**—There is little change to note in Barb Wire. Slight concessions are obtainable from recent figures.

**Advices from Chicago.**—Both Barb and Smooth Wire are moving much better than Nails. Stocks are light in the warehouses of both jobbers and mills. Small lots from stock are selling at \$1.55 to \$1.60 for Painted, and \$1.85 to \$1.90 for Galvanized.

**Advices from St. Louis.**—There continues to be an excellent demand for Barb Wire, and mills have some difficulty in making prompt shipment. Jobbers quote \$1.65 for small lots of Painted from store, with the usual advance for Galvanized.

**Bright Wire Goods.**—Within a comparatively short time the market in Bright Wire Goods has become a good deal demoralized, and quotations are low and irregular.

**Wrought Iron Pipe.**—The market in Wrought Iron Pipe continues firm at the prices named in our last issue. There is a good deal of business doing.

**Wrought Iron Goods.**—The market in this line of goods is somewhat uneven. The competition between the different manufacturers is apparently developing lower prices.

**Glass.**—There are no new developments in the Window Glass situation. Eastern demand has not been improved by the present uncertainty, and the local market is not strong at 85 and 10 per cent. for less than carload lots. Away from the sea coast building operations appear to promise a good business in Glass. Sash and door manufacturers are reported as having limited stocks, and if present prospects are realized a light stock of Glass at the close of the fire is anticipated. No further trouble has occurred in the Indiana Glass belt, and all American Glass Company's factories are running. New York jobbers quote 85 and 10 per cent. discount in less than carload lots.

**White Lead.**—White Lead in Oil has been moving rather more freely, the smaller packages being most in demand. Prices and terms remain unchanged. Business in Dry Lead has not been up to the average.

**Red Lead.**—No change has taken place in the price of Red Lead, the market being steady.

**Linseed Oil.**—There is a fair business doing in Linseed Oil, representing about the usual movement at this season of the year. The general market conditions remain unchanged.

**Spirits Turpentine.**—Local stocks are limited on account of restricted shipments from the South, with fair demand. Nevertheless the market is about 1c. weaker than last week, the retail price for barrel lots being 32c. a gallon.

## TRADE NOTES.

The J. B. Long Mfg. Company, Chicago, manufacturers of Oil Cans, &c., contemplate building galvanizing works as an addition to their factory.

The New Kensington Roll Foundry Company is the title of a new industry about to be added to the manufacturing establishments of New Kensington, Pa. The company have been organized by local capitalists for the manufacture of Chilled Rolls for rolling mill work, under the secret process of Albert Cochrane of Leechburg, Pa. The company have already begun the erection of their plant, which will be ready for operations about October 1.

The Nolte Brass Company, Springfield, Ohio, are erecting a new plant, consisting of a brick building, 40 x 200 feet, the power in which will be furnished by a 40-horsepower gas engine.

E. T. Barnum, Detroit, Mich., has recently purchased the business and good will of the American Brass & Metal Works of that city, thus largely increasing his facilities for the manufacture of Ornamental Metal Work for interior finish, such as elevator inclosures and cars, bank, office and counter railing, ornamental grille work and bank fixtures, cemetery vault doors, &c. Mr. Barnum also makes a specialty of Steel Jail Cells and Cages, Iron Stairs, Fire Escapes, Lawn Furniture, Vases, Iron Fencing, &c.

A grain elevator with a capacity of 1,500,000 bushels has recently been completed at Manchester, England, by a Chicago contractor. The machinery and all the iron work in this building were produced in Chicago. The United States also furnished the pine and the heavy timber used in the building, and all the skilled laborers, foreman and superintendents were Americans. The building, which is the largest elevator in England, was completed in four months from the time the foundations were finished. The equipment includes complete and modern

loading and unloading devices and conveyors. It is estimated that the appliances in use will permit the unloading of grain from vessels at the rate of 12,000 bushels an hour.

## The Philadelphia Exposition of 1899.

A preliminary prospectus just issued outlines the plan for the Commercial Exposition to be held in Philadelphia from May to October, 1899, under the joint auspices of the National Association of Manufacturers, the Franklin Institute and the Philadelphia Museums. Briefly, the objects of the scheme are as follows: 1. To show foreign buyers the goods American manufacturers offer to export and to establish their superiority. 2. To show American manufacturers the character of goods they must compete with in the open markets of the world. 3. To show how American goods should be packed, labeled and put up for export trade. 4. To bring the manufacturers and merchants of the United States in direct personal contact with the principal buyers, merchants and bankers of foreign countries. There will be three divisions of the exposition, the most important being the exhibit of American manufactures. In the second division will be shown samples of successful foreign export articles, while the third department will illustrate methods of packing.

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# Metal and Miscellaneous Prices.

CHICAGO, APRIL 21, 1898.

## Tin—

Straits pigs.....15¢@16¢

### American Tin Plates—

#### American Base Box Quotations.

Based on 32,000 square inches in a box, which is exactly 2 per cent. more than in the English base box of 14 x 20 Tin Plates. The American base box weighs 110 lb and the English base box 108 lb.

#### Highest Grade Charcoal—Bright.

Size.	Base.	Contents.	Per box.
10 x 14, 110-lb.	240 sheets	.....	\$5.65
" 140-lb.	"	.....	7.25
12 x 12, 110-lb.	"	.....	5.75
" 140-lb.	"	.....	7.50
14 x 20, 110-lb.	120	.....	5.65
" 140-lb.	"	.....	7.25
" 160-lb.	"	.....	8.85
" 180-lb.	"	.....	10.45
" 200-lb.	"	.....	18.15
20 x 28 double the price of 14 x 20.			
12½x17, 140-lb.	120 sheets	.....	5.35
" 180-lb.	"	.....	6.95

#### Second Grade Charcoal—Bright.

10 x 14, 110-lb.	240 sheets	.....	5.10
" 140-lb.	"	.....	6.15
12 x 12, 110-lb.	"	.....	5.25
" 140-lb.	"	.....	6.30
14 x 20, 110-lb.	120	.....	5.10
" 140-lb.	"	.....	6.15
" 160-lb.	"	.....	7.25
20 x 28 double the price of 14 x 20.			

#### Highest Grade Coke—Bright.

10 x 20, 110-lb.	240 sheets	.....	5.75
12 x 12, 110-lb.	"	.....	4.15
" 140-lb.	"	.....	4.95
14 x 20, 110-lb.	120	.....	4.00
" 140-lb.	"	.....	4.85
20 x 28 double the price of 14 x 20.			
20x28½, 110-lb.	120 sheets	.....	8.00
20x29½, 110-lb.	"	.....	8.85
20x32½, 110-lb.	"	.....	9.90
" 140-lb.	"	.....	12.35
20x39½, 140-lb.	"	.....	15.00

## Old English Method Quotations

### Charcoal Plates—Bright.

The price of 20 x 28 sizes is double the price of 14 x 20.

	Per box.
IC, 10 x 14	.....
IC, 12 x 12	..... \$5.25
IC, 14 x 20	.....
IX, 10 x 14	.....
IX, 12 x 12	..... 6.75
IX, 14 x 20	.....
IXX, 14 x 20	..... 8.25
IXXX, 14 x 20	..... 9.75
IXXXX, 14 x 20	..... 11.25
DC, 12½ x 17	..... 5.00
DX 12½ x 17	..... 6.50

IC, 10 x 14	.....
IC, 12 x 12	..... 4.75
IC, 14 x 20	.....
IX, 10 x 14	.....
IX, 12 x 12	..... 5.75
IX, 14 x 20	.....
IXX, 14 x 20	..... 6.75
IXXX, 14 x 20	..... 7.75
IXXXX, 14 x 20	..... 8.75

### Coke Plates—Bright.

	Per box.
IC, 10 x 14	.....
IC, 12 x 12	..... \$9.75
IC, 14 x 20	.....
IX, 10 x 14	..... 5.50
IX, 12 x 12	..... 7.75
IX, 14 x 20	..... 7.75
IXX, 14 x 20	..... 8.50
IXXX, 14 x 20	..... 9.00
IXXXX, 14 x 20	..... 9.00
IX, 10 x 14	.....
IX, 12 x 12	..... 4.50
IX, 14 x 20	.....
IX, 20 x 32½	..... 12.00

The reduction per box on lighter plates than IC 14 x 20 is as follows:

100 lb.	..... 15¢
95 lb.	..... 20¢
90 lb.	..... 25¢
85 lb.	..... 30¢

### Terne Plates.

The following prices are for IC 20 x 28, the rate for 14 x 20 being half as much. IX is usually held at \$2.50 per box advance.

#### Per box.

Standard Old Style,	
36 to 40 lbs. coating	..... \$18.00@ \$15.00
Redipped, or Good Old Style,	
20 to 30 lbs. coating	..... 10.50@ 12.00
Worcester Grade,	
12 to 14 lbs. coating	..... \$10.00@ 9.00
STP	
Grade,	
10 to 12 lbs. coating	..... 7.50@ 8.00
Dean Grade,	
8 to 10 lbs. coating	..... 7.25@ 8.00

## Imported Tin Plates—

### Tin Boiler Plates.

	Per box of 100 sheets.	Per box of 112 sheets.
IC, 14 x 28	..... \$7.25	..... 247
IX, 14 x 28	..... \$10.00	..... 10.25
IXX, 14 x 28	..... 11.50	..... 12.75
IX, 14 x 31	..... 11.50	..... 12.75
IXX, 14 x 31	..... 18.00	..... 14.00
	Per box of 56 sheets.	
IX, 14 x 56	..... \$12.50	..... 2.60
IXX, 14 x 56	..... 24.00	..... 14.00
IX, 14 x 60	..... 23.00	..... 13.50
IXX, 14 x 60	..... 27.00	..... 15.00

## Iron and Steel Sheets—

### Black.

	Soft Steel.	Refined Iron.
Nos. 10 to 16	..... \$2.00¢	..... 2.30¢
17 to 20	..... \$2.10¢	..... 2.30¢
21 to 24	..... \$2.20¢	..... 2.40¢
25 and 26	..... \$2.30¢	..... 2.50¢
27	..... \$2.40¢	..... 2.60¢

### Russia, Planished, &c.

Patent Planished, \$10.20, 5¢	
Patent Planished, \$10.20, 5¢	
Craig's Polished Sheet Steel	..... 8½¢
U.S. Polished Sheet Steel No. 27 A	..... 5.05¢

### Galvanized.

First quality	..... dls. 80@80&2½¢
---------------	----------------------

## Copper—Ingot.

Lake	..... 12½¢@13¢
Casting Brands	..... 12½¢@12½¢

### Sheet and Bolt.

New list, net.	
----------------	--

### Copper Bottoms.

New list, net.	
----------------	--

### Seamless Brass and Copper Tubes.

Base price, 17½¢, Chicago, with extras according to size.

Copper, Bronze and Gilding Tube, 3¢

lb additional.

### Braided Brass Tubing. (100 lb lots).

(To No. 19 inclusive).

Discount 45%.

Plain, ½ inch up to 2 inch. .... \$0.35

Plain, ¼ inch up to ½ inch. .... .36

Plain, ⅜ inch up to ½ inch. .... .38

Plain, ⅝ inch up to ¾ inch. .... .41

Plain, 5-16 inch up to ¾ inch. .... .08

Plain, ¾ inch up to 5-16 inch. .... .65

Plain, 3-16 inch up to ¾ inch. .... 1.00

Plain, ½ inch up to 3-16 inch. .... 1.50

Plain, 2 inch up to 3 inch. .... .38

Plain, 3 inch and larger. .... Special.

Plain, smaller than ¾ inch. .... Special.

Bronze and Copper. .... 3¢ advance.

### Roll and Sheet Brass. (100 lb lots).

Discount, 40%.

## Aluminum—

No. 1 Aluminum (guaranteed over 99% Pure) in ingots for remelting.

Small lots. .... \$10.40¢

100-lb lots. .... \$10.36¢

No. 2 (guaranteed over 90% pure).

Small lots. .... \$10.34¢

100-lb lots. .... \$10.33¢

Nickel Aluminum Casting Metal.

Small lots. .... \$10.39¢

100-lb lots. .... \$10.35¢

Special Casting Alloy, with over 80% pure Aluminum used in place of brass.

Small lots. .... \$10.35¢

100-lb lots. .... \$10.30¢

Aluminum Rolled Rods, from ¼ to 1 inch diameter. .... \$10.53¢

Aluminum Drawn Rods, from 1-16 to 1 inch diameter. .... \$10.55¢

Aluminum Plates and Sheets, B. & S. gauge.

In lots of 50 lb or more. Less quantities, 5¢ lb additional.

Wider than. .... 6-in. 14-in. 24-in.

And including. .... 14-in. 16-in. 30-in.

Nos. 18 to 19. .... \$0.38 \$0.40 \$0.43

" 20. .... .40 .40 .45

" 21 to 23. .... .42 .42 .47

" 24. .... .42 .44 .49

" 25. .... .43 .45 .50

" 26. .... .43 .46 .55

" 27. .... .44 .48 .58

" 28. .... .44 .50 .60

" 29. .... .45 .52 .65

" 30. .... .46 .54 .73

## Slab Spelter—

Western Spelter. .... 4½¢@4½¢

## Sheet Zinc—

600-lb casks. .... 5½¢

300-lb casks. .... 5.95¢

Loose sheets. .... .6¢

## Solder—

Half and Half (50 x 50). .... 11¢

45/55. .... 10½¢

Extra Wiping. .... 9½¢

The prices of the many other qualities of Solder in the market indicated by private brands vary according to composition.

## Antimony—

Cookson. .... 10@10½¢

Hallett's. .... 9@9½¢

## Lead—

Soft Pig Lead. .... 4¢

Bar. .... 5¢

Sheet. .... 6¢

## Leader Pipes—

Corrugated. .... 80&10¢

## Eave Troughs—

Galvanized. .... 80&25¢

IC Terne. .... 75&5¢

IX Terne. .... 75&5¢

Double Bead Galvanized Lap Joint. .... 80&25¢

Double Bead Galvanized Slip Joint. .... 80&25¢

Double Bead IC Terne Lap Joint. .... 75&5¢

Double Bead IX Terne Lap Joint. .... 75&5¢

## Elbows—

Adjustable Tin. .... 70¢

Spiral. .... 50&10¢

Plain Tin. .... 70¢

Plain Galvanized. .... 70&5¢

## Valleys—

Galvanized. .... 75&5¢

IC Terne. .... 70&15¢

IX Terne. .... 70&15¢

## Cutters—

Galvanized Roof. .... 80¢

Galvanized Quarter Circle, O. G. and

Box. .... 80¢

## Furnace Fittings—

Discount from Excelsior Steel Fur-

nace Co.'s revised list

25%, f. o. b. Chicago.

## Steel Roofing—

Perfection. .... \$2.25 square

Climax. .... 2.20 square

The Lloyd Spanish Tiling. .... 4.50 square

W. J. Burton & Co.'s Roll Cap 3.00 square

Subject to discount.

## Metallic Shingles—

Cushman's. .... dls. \$2.35

Merchant & Co.'s Gothic Shingles.

10 x 14 14 x 20

IC Tin. .... \$4.75 \$4.50

Galv. .... square, 6.25 5.75

Merchant & Co.'s Spanish Tiles—

Copper, 12 oz., 14 x 20. .... \$25.50 square

Tin IC, 14x20, \$3.00 @ \$14.25 square

Steel, painted, 14 x 20. .... \$7.50 square

Other sizes on application.

W. J. Burton & Co.'s Eastlake Steel—

\$4.00 square; IC Tin, \$4.25; Octagon

Fluted Steel, \$4.50; IC Tin, \$5.00;

Gothic Tile, Tin, \$9.00; subject to

discount.

Berger's Spanish Tiles—

Copper, 12 oz., 14 x 20. .... \$25.50 square

IC Tin, 14 x 20. .... 8.00 square

Steel Painted, 14 x 20. .... 7.50 square

Cortright's Metal Slates—

14 x 20. .... \$5.25 square

10 x 14. .... 5.50 square

7 x 10. .... 6.50 square

Cortright's Victoria Shingles—

10 x 14. .... \$8.75 square

7 x 10. .... 8.50 square

Subject to discount.

## Drain Pipe—Tin.

Discount from list. .... 50%

## Paints, Oils, &c.

Deodorized Benzine. .... 8 @ 12¢

Iron Paint, Bright Red. .... \$10.2¢

" " Brown. .... \$10.1½¢

" " Purple. .... \$10.2½¢



## NEW YORK, APRIL 22.

The following quotations are for small lots:

## Aluminum—

No. 1 Aluminum (guaranteed over 99% Pure), in ingots for remelting.	40¢
Small lots.	40¢
100-lb lots.	36¢
Aluminum Rods, from 1/4-in. diam. to 1 in. diam.	53¢
Aluminum Sheet, B. & S. gauge.	
in lots of 50 lbs or more.	
Wider than..... 6-in. 14-in. 24-in.	
And including..... 14-in. 24-in. 30-in.	
Nos. 13 to 19.....	\$0.38 \$0.40 \$0.43
" 20.....	.40 .42 .45
" 21 to 23.....	.42 .44 .47
" 24.....	.42 .44 .49
" 25.....	.43 .47 .50
" 26.....	.43 .50 .55
" 27.....	.44 .53 .58
" 28.....	.44 .53 .60
" 29.....	.45 .54 .65
" 30.....	.46 .60 .73

Note.—Lots of less than 50 lbs 5¢ lb extra.

## Antimony—

Cookson.....	94¢@96¢
Hallett's.....	84¢
Japanese.....	74¢

## Brass—Planished..... net

## Roll and Sheet..... 30% off

## Brass and Copper Tubes

## Braze Brass Tubing—

Brown &amp; Sharpe's Gauge the Standard.

List Feb. 20, 1896.

Plain Round Tube.	Per lb.
1/4-in. up to 2-in.	\$0.35
2-in. up to 4-in.	.38
4-in. up to 6-in.	.41
6-in. up to 8-in.	.44
8-in. up to 10-in.	.48
10-in. up to 12-in.	.53
12-in. up to 14-in.	1.00
14-in. up to 16-in.	1.50
16-in. up to 18-in.	Special
18-in. and larger.	Special
2-in. to 3-in., to No. 10, inclusive.	.38

## Copper &amp; Bronze Tubing—

3¢ lb more than Brass.

## Conductors—

## Corrugated. Round or Square.—

Galvanized, Nested.....	80%
" Not Nested.....	80%
" Locked Joints, Nested.....	80%
" Not Nested.....	80%
Tin.....	70%

## Spiral Riveted.

Galvanized.....	50%
See also Elbows and Shoes; Eave Trough Miters; Strainers, Conductor.	

## Conductor Strainers—See

Strainers, Conductor.

## Copper—

Bottoms, Pits and Flats 20¢ basis

Ingot.

Lake..... 194¢

Ansonia Grade Casting..... 194¢

Planished..... net

Sheet and Bolt..... 10¢ lb basis

## Tubes—See Seamless Brass Tubes.

## Eave Troughs—

List Feb. 1, 1895.

Lap or Slip Joint, Galvanized..... 80%&amp;10%

Lap or Slip Joint, Terne..... 65%

## Eave Trough Miters—

Lap or Slip Joint..... list, 25%

## Elbows—Plain Adjustable—

Tin..... 70%&amp;10%

Galvanized..... 80%

## Crimped Tubing.

Retinned or Galvanized..... 35%

## Stove Pipe—

Buffalo Four-Piece.

4 1/2 5 5 1/2 6 7-inch.

No. 1. \$0.70 .77 .82 .87 1.05 per doz.

No. 2. .61 .68 .71 .74

## Elbows and Shoes—

Flat Crimp.

Tin..... 35%

Galvanized..... 35%

## Corrugated. Flat Crimp.

Galvanized..... 70%&amp;5%

Round or Square..... 70%&amp;5%

Galvanized..... 70%&amp;5%

## Gasoline—See Petroleum Products.

## Iron, Sheet—Black.

Common R. G. Cleaned

American. American.

Nos. 10 to 16..... 2.00

Nos. 17 to 21..... 2.10

Nos. 22 to 24..... 2.20

Nos. 25 and 26..... 2.30

Nos. 27..... 2.40

No. 28..... 2.50

American B. B..... 2.75

Russia, Planished, &amp;c.

Genuine Russia, accord-

ing to assortment..... 10¢@10¢

Do. Stained..... 10¢@10¢

Patent Planished..... 10¢@10¢

Craig Polished Sheet Steel..... 8¢

## Galvanized.

Nos. 10 to 16.....	12¢
Nos. 17 to 21.....	13¢
Nos. 22 to 24.....	14¢
Nos. 25 to 26.....	15¢
No. 27.....	16¢
No. 28.....	17¢
No. 29.....	18¢
No. 30.....	19¢
36 in. 1¢ lb higher	21¢

## Kerosene—See Petroleum Products

## Lead—

American Pig.....	4¢@4¢
Bar.....	.02
Pipe.....	5¢@.20
Tin Lined Pipe.....	12¢@.20
Block Tin Pipe.....	30¢@.20
Sheet.....	6¢@.20
Old Lead in exchange, 3/4¢ lb.	

## Miters, Eave Trough—See

Eave Trough Miters.

## Nickel—

Per lb..... 38¢

## Paints, Oils, &amp;c.—

Lead, White, Atlantic and Jewett's.

100@500 lb..... 6¢

Lead, Amn. White, in oil..... 6¢

Lead, Red, bbls. and 1/2 bbls..... 6¢

Lead, Red, kegs..... 6¢

Ochre, American..... 1¢

Red Venetian, American..... 1¢

Lined Oil.....

Raw, gal..... 41¢@42¢

Boiled..... 43¢@44¢

Spirits Turpentine:

In bbls..... 32¢

In cases..... 40¢

Putty:

In barrels and 1/2 bbls..... 1¢@2¢

In tubs..... 1¢@2¢

In tin cans..... 2¢@3¢

In bladders..... 2¢@3¢

## Palm Oil. 1500 lb casks.

Fancy Lagos..... 5 1/4¢

Clarified..... 5¢

Acree..... 4 1/2¢

Half Jack..... 4 1/2¢

Cecilia..... 100 lb \$4.55

Choice Red..... 100 lb 4.60

(Spot Oil, 1/2¢ lb higher.)

## Petroleum Products—

In Barrels (Barrel Included).

Stove Gasoline..... gal. 10¢@11¢

Kerosene..... gal. 8¢

## Pipe, Drain—

Pipe, Spiral—

Galvanized..... 60%

Tin..... 60%

## Plumbers' and Steam

Fitters' Supplies—

List of June 1, 1896.

## Fittings—

Cast Iron Fittings, Black and Galva-

nized, Standard sizes..... 75%

Cast Iron Fittings, Bushings and

Flugs..... 75%

Cast Iron Fittings, Flanges..... 75%

Malleable Iron Bushings..... 75%

" Unions..... 70%

" American Unions..... 40%

Wrought.....

" Nipples..... 75%

" Couplings..... 70%

" Long Screws..... 70%

Malleable.....

" Fittings..... 50%

## Valves, Cocks, &amp;c.—

Iron Body Valves..... 75%

All Iron Valves..... 70%

Air Cocks and Radiator Air Cocks..... 70%

Soldering Unions..... 70%

" Nipples..... 70%&amp;75%

Brass Unions (Union Joints)..... 70%

Vacuum Valves..... 40%

Steam Swing Joints..... 50%

Iron Strainers..... 60%

Jenkins' Iron Body Valves, except

Gate Valves..... 65%

Gate Valves..... 60%

Jenkins' All Iron Valves, except

Gate Valves..... 60%

Jenkins' Iron Body Gate Valves..... 60%

All Iron Gate Valves..... 60%

Iron Cocks, all Iron..... 70%

" with Brass Plugs..... 60%

Brass Globe, Angle and Cross Valves..... 70%

" and Angle Valves, hose

outlet..... 70%

Brass Garden Hose Valves..... 70%

Horizontal, Vertical and Angle

Check Valves..... 75%

Brass Safety Valves..... 70%

" Low Pressure..... 70%

" Radiator Valves..... 70%

" Jenkins' Globe, Angle, Cross,

Corner, Safety and Check Valves..... 65%

Brass Jenkins' Gate Valves..... 75%

" Steam Cocks..... 75%

" Gas Meter and Union Meter

Cocks..... 70%

Brass Fittings, Rough..... 70%

" Finished..... 65%

" Bushings..... 65%

## Plumbers' Brass Work—

List of December 7, 1896.

Ground Key Work, Rough..... 70%

" " " Farnam's..... 65%

" " " Finished..... 65%

Compression Work..... 65%

Chair Stays..... 60%

Iron Boiler Couplings, Ground Face,

per set, \$1.00..... net

Basin Plugs..... 65%

Sink or Bath and Wash Tray Plugs..... 65%

Basin-Clamps..... 60%

" Plumbers' Joy, 50¢ lb

doz..... net

## Bath Tubs—

Copper Lined Bath Tubs.....	50%&10%
Steel Clad Copper Lined Bath Tubs,	
list of Oct. 20, 1897.....	50%
Porcelain Lined Iron Bath Tubs, list	
of Aug. 15, 1896.....	40%
Steel Clad Enamel Bath Tubs, list of	
Oct. 20, 1897.....	50%

## Boilers—

Galvanized Iron Range Boilers to and	
including 52 gallons.....	70%&10%
Galvanized Iron Range Boilers above	
52 gallons.....	60%
Galvanized Iron Range Boilers, Extra	
Heavy, to and including 52 gal., 65%&5%	
Galvanized Iron Range Boilers, Extra	
Heavy, above 52 gallon.....	50%&5%

## Cast Iron Goods.

Cast Iron Soil Pipe, Standard.....	70%
" " " Extra Heavy.....	75%
" " " Fittings.....	75%
" " " Sinks, Plain.....	60%
" " " Galvanized.....	60%
" " " Backs Plain.....	60%
" " " Galvanized.....	60%
" " " Legs Plain.....	60%
" " " Galvanized.....	60%
" " " Backs with alcham-	
bers, Plain.....	60%
Cast Iron Sinks, Backs with alcham-	
bers Galvanized.....	60%

## Miscellaneous.

Earthenware, List of Dec 5, 1895.....	60%
Drawn Lead Traps, List of Aug. 2,	
1897.....	50%
Palmer's Improved Horizontal Back	
Water Sewer Valves.....	35%
Climax Soil Pipe Testing Plugs.....	50%

## Registers—

List Dec. 20, 1897.	
Black Japanned.....	40%&10%
White Japanned.....	80%&10%
Nickel Plated.....	40%&10%
Bronze Finishes in Imitation of Gold,	
Silver, Copper or Bronze.....	40%
Electroplated in Brass, Bronze or	
Copper.....	40%

## Rock and Slag Wool—

Slag Wool, ordinary.....	1 1/2¢
slag Wool, extra.....	15¢
Rock Wool, ordinary.....	2 1/2¢
Rock Wool, extra.....	4 1/2¢

## Roofing Material—

Asphaltum, Trinidad Refined,	
1 ton.....	\$30.00@35.00
Asphaltum, Rock, 1 ton.....	\$14.00
Coal Tar Felt, 1 ply, 108 sq. ft.....	2¢
2 Ply Roofing, 1 roll, 108 sq. ft.....	\$1.00
3 Ply Roofing, 1 roll, 108 sq. ft.....	1.35
Roofing Pitch, 1 bbl.....	\$2.40@2.50

## Rosin—

Common and Good—Strained.	
Rosin, C. & D.....	1.48@1.49
Rosin, E. & F.....	1.55@1.60
Rosin, G. & H.....	1.70@1.80
Rosin, I. & K.....	1.85@1.90
Rosin, M. & N.....	2.10@2.20

## Seamless Brass Tubes—

Net List, Feb. 1, 1897.

## Shoes and Elbows—See El-

bows and Shoes.

## Slate Roofing—

According to size, f.o.b. cars, Quarry Station.

## Pennsylvania:

Best Bangor, 1 sq. ....	\$3.50@4.50
No. 1 Bangor Ribbon.....	8.00@ 3.25
Pen Argyle, 1 sq. ....	3.25@ 3.50
Peach Bottom, 1 sq. ....	4.75@ 5.00
No. 1 Chapman, 1 sq. ....	3.00@ 4.25
Lehigh Slates, 1 sq. ....	3.25@ 3.80

## Vermont:

Sea Green, 1 sq. ....	\$2.45@3.05
Purple, 1 sq. ....	3.75@ 4.00
Variegated Purple.....	2.25@ 2.90
Unfading Green, 1 sq. ....	3.50@ 4.00
Red, 1 sq. ....	3.50@ 4.00

## Solder and Soldering

## Fluids—

## Solder—

1/2 lb guaranteed..... 10¢@11¢

No. 1..... 9¢@10¢

Prices of Solder indicated by private

brands vary according to composition.

## Soldering Fluids—

Acme Soldering Flux.

Per gal..... 60¢

Concentrated Soldering Flux.

f.o.b. New York.

In barrels..... 4¢

Smaller quantities, 1 lb..... 5¢

Gedney's Soldering Fluid.

In carboys or barrels, 1 lb..... 2¢

\$1.50 for carboy or barrel; money re-



## ALPHABETICAL LIST OF ADVERTISERS.

Acme Machine Co..... 67	Cleveland Rule & Handle Co..... 20	Gurney Heater Mfg. Co..... 9	Millar, Chas. & Son..... 72	Sheppard, Isaac A. & Co..... 1
Adriance Machine Works... 71	Clough, R. M..... 70	Gurney Refrigerator Co..... 20	Miner & Peck Mfg. Co..... 71	Simonds Furnace Co..... 9
Atna-Standard Iron & Steel Co..... 61	Joe, Jas. A. & Co..... 61	Halliday, M..... 61	Mitchell Heater Co..... 11	Smith Co., H. B..... 12
American Corrugating Co.. 64	Joelwell Lead Co..... 17	Hanson, F. B..... 19	Monarch Stove & Mfg. Co... 4	Smith, W. A. & Co..... 59
Amer. Electrical Heater Co.. 18	Connors, Wm..... 1	Hanson & Van Winkle Co.. 16	Monroe Fdry. & F'ce. Co... 13	Souther, E. E. Iron Co..... 66
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Apollo Iron & Steel Co. .... 1	Cope, Geo. W..... 15	Highton, Wm. & Son..... 12	Montross Metal Shingle Co.. 64	Sperry, D. R. & Co..... 23
Arcade Mfg. Co..... 19	Cortright Metal Roofing Co.. 64	Hill, Whitney & Wood Co... 21	Morton Tin Plate Co..... 63	Stebbins, E. Mfg. Co..... 18
Atlanta Steel & Tin Plate Co. 62	Cory, U. & Co..... 14	Hoffman, Geo. W..... 14	Mowry, W. C..... 12	Steel Bath Mfg. Co..... 17
Baker, J. R. Co..... 59	Crawford & Young..... 17	Holton Iron Roofing Co..... 64	Munsell, E. & Co..... 11	Stiles, E. S. Press Co..... 68
Bangor Excelsior Slate Co.. 53	Curtis & Curtis..... 17	Howard Furnace Co. .... 24	National Pipe Bending Co.. 11	Stiles & Parker Press Co.... 70
Barstow Stove Co..... 72	Detroit Smelting & Refining Co..... 57	Howard Thermostat Co..... 8	New York Iron Roofing & Corrugating Co..... 64	Stocking, E. B..... 58
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Beaver Tin Plate Co..... 61	Double Truss Cornice Brake Co..... 67	Hussey, C. G. & Co..... 58	Northrop, H. S..... 66	Sykes Iron & Steel Roofing Co..... 64
Beckwith, P. D., Estate of.. 5	Drake, W. H..... 11	Illinois Pure Aluminum Co.. 21	Ohl, Geo. A. & Co..... 70	Taylor Co., N. & G..... 72
Bell, W. C..... 70	Eastwood Wire Mfg. Co..... 1	International Correspondence Schools..... 57	Osborn, J. M. & L. A..... 61	Thorn Shingle & Ornament Co..... 66
Berger Bros. Co..... 60	Eddy Electric Mfg. Co..... 16	Iron City Mfg. Co..... 64	Ostrander, W. R. & Co..... 58	Tinners' Machinery & Supply Co..... 69
Berger, L. D..... 62	Eller, J. H. & Co..... 65	Iron Clad Mfg. Co..... 10	Palmer I. E..... 22	Toledo Mch. & Tool Co..... 66
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Bertsch & Co..... 70	Excelsior Steel Furnace Co. 10	Jenkins Bros..... 1	Peck, Stow & Wilcox Co.. 69	Valentine, M. D. & Bro. Co.. 15
Bibb, B. C. Stove Co..... 11	Fee & Mason ..... 59	Johns, H. W. Mfg. Co..... 15	Philadelphia Steel Roofing Co..... 62	Van Range Co., John ..... 7
Bishop, G. E..... 70	Ferroteel Co..... 10	Johnson, E. J. & Co..... 68	Pocock, Oliver..... 66	Vance Steam Boiler Works.. 12
Bliss, E. W. Co..... 70	Follansbee Bros. Co..... 62	Kansas City Metal Roofing & Corrugating Co..... 64	Poorman Mfg. Co..... 66	Vanderman Plumbing & Heating Co..... 17
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Blumer-Doscher Mfg. Co.... 59	Frاند, M. J. & Co..... 58	Keene, Geo. C. & Co..... 71	Putnam Foundry & Machine Co..... 12	Vogel, William & Bros..... 23
Bowen Mfg. Co..... 21	Franke, H..... 14	Kelly, Thos. & Bro..... 17	Presbrey Stove Lining Co.. 15	Washburne, E. G. & Co... 59&66
Bowers, L. M. & Co..... 59	Friedenwald Bros..... 18	Kemp, C. M. Mfg. Co..... 17	Proudman Bros..... 23	Weir Stove Co..... 72
Brand Stove Co..... 9	Frink, I. P..... 72	Kernan Furnace Co..... 6	Rasner & Dinger..... 62	West Mfg. Co..... 69
Brauer, A. G..... 57	Front Rank Steel Furnace Co.. 12	Kieckhefer Bros. Co..... 23	Richmond Stove Co..... 10	Wetter, H. Mfg. Co..... 18
Bray, J. & Co..... 68	Galt, John & Sons..... 68	Kleley, T..... 1	Robinson, J. M. & Co..... 71	Wheeler, E. S. & Co..... 1
Bruce & Cook..... 68&72	Garry Iron & Steel Roofing Co.. 64	Koven, L. O. & Bro..... 15	Rochester Stamping Works.. 58	Whelan, D. J..... 69
Burgess Soldering Furnace Co..... 19	Giblin & Co..... 8	Lalance & Grosjean Mfg. Co. 23	Ryan, Thos. W..... 19	White-Warner Co..... 1
Burritt, O. W. & Bro. .... 67	Globe Iron Roofing & Cor. Co. 66	Lawrence-Letts Elbow Co.. 15	Safety Furnace Pipe Co.... 9	Williams Stove Lining Co... 1
Burton, W. J. & Co..... 63	Globe Ventilator Co..... 60	Littleford Bros..... 66	St. Louis Stamping Co..... 23	Willis Mfg. Co..... 62
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Canton Steel Roofing Co.... 64	Goodrich, Judson A. Co.... 1	McClure & Co..... 72	Sanborn, John..... 61	Wister, L. & R. & Co..... 72
Carton Furnace Co..... 3	Gordon, W. J..... 71	McCullough Iron Co..... 63	Saunders', D. Sons..... 17	Wood, Alan Co..... 63
Carter Filter Co..... 20	Gorton & Lidgerwood Co.... 1	Magee Furnace Co..... 1	Schratwiesers Metal Lath Works..... 59	Wood Co., W. Dewees... 72
Chautauqua Hanger Co.... 59	Graft & Co..... 7	Marcy Stove Repair Co..... 15	Schwerdtle & Siebert..... 67	Zucker & Levett & Loeb Co.. 16
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Cincinnati Corrugating Co.. 65	Griffing, A. A. Iron Co..... 12	Marston, I. G. & Co..... 17		
Cleveland Fdy. Co..... 2	Gummey, McFarland & Co.. 61	Meurer Bros. Co..... 60		
Cleveland Gas Machine Co.. 16				

IT WILL PAY TO GET OUR  
PRICES FOR

**Genuine Bangor  
Roofing Slate**

BEFORE PLACING YOUR ORDERS.

**BANGOR EXCELSIOR SLATE CO., - Easton, Pa.**

QUARRIES AT BANGOR, PA.



# CLASSIFIED LIST OF ADVERTISERS.

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Lalance & Grosjean Mfg. Co., 19 Cliff St., N. Y.

## Aluminum Ware.

Hill, Whitney & Wood Co., Boston, Mass.  
Illinois Pure Aluminum Co., Lemont, Ill.

## Architectural Ornaments.

Frاند, Martin J. & Co., Camden, N. J.  
Wills Mfg. Co., Galesburg, Ill.

## Ball Cocks.

Ryan, Thos. W., Concord Junction, N. H.

## Baskets, Metallic.

Kleckhefer Bros. Co., Milwaukee, Wis.

## Bath Seat.

Wetter, H. Mfg. Co., Memphis, Tenn.

## Bathtubs.

Peck Bros. & Co., New Haven, Conn.  
Steel Bath Mfg. Co., Detroit, Mich.  
Wilson, R. M. Mfg. Co., Rome, N. Y.

## Beer Pumps.

I. X. L. Beer Pump Co., Phila., Pa.

## Boilers, Range.

Iron Clad Mfg. Co., 22-24 Cliff Street, N. Y.

## Brass Sheets, Rolls, &c.

Hussey, C. G. & Co., Pittsburgh, Pa.

## Bronze and Bronzing Liquid.

Griffing, A. A. Iron Co., 66-68 Centre St., N. Y.

## Building Paper.

Kansas City Roofing & Cor. Co., Kansas City, Mo.

## Cann Makers' Tools and Machines.

Bliss, E. W. Co., Brooklyn, N. Y.  
Gordon, W. J., Phila., Pa.  
Niagara Machine & Tool Wks., Buffalo, N. Y.  
Robinson, J. M. & Co., Cincinnati, O.  
Stiles, E. S. Press Co., Watertown, N. Y.  
Stiles & Parker Press Co., Brooklyn, N. Y.

## Castings.

Cheney, S. & Son, Manlius, N. Y.  
Forest City Foundry & Mfg. Co., Cleveland, Ohio.

## Ceilings, Metallic.

American Corrugating Co., St. Louis, Mo.  
Cambridge Roofing Co., Cambridge, O.  
Canton Steel Roofing Co., Canton, O.  
Eller, J. H. & Co., Canton, O.  
Frاند, Martin J. & Co., Camden, N. J.  
New York Iron Roofing & Cor. Co., Jersey City, N. J.  
Northrop, H. S., 40 Cherry St., N. Y.  
Souther, E. E. Iron Co., St. Louis, Mo.

## Cellar Drainers.

Friedenwald Bros., Baltimore, Md.  
Kemp, C. M. Mfg. Co., Baltimore, Md.

## Clean Out.

Crawford & Young, Boston, Mass.

## Cocks, Ball, Basin and Stop.

Peck, Bros. & Co., New Haven, Conn.  
Stebbins, E. Mfg. Co., Brightwood, Mass.

## Coffee Pots.

Rochester Stamping Works, Rochester, N. Y.

## Coils.

National Pipe Bending Co., New Haven, Conn.

## Conductor Pipe and Elbows.

Berger Bros. Co., Philadelphia, Pa.  
Bowers, L. M. & Co., Binghamton, N. Y.  
Canton Steel Roofing Co., Canton, O.  
Cincinnati Corrugating Co., Piqua, O.  
Lawrence-Letts Elbow Co., Ltd., Waverly, N. Y.  
Lyon, Conklin & Co., Baltimore, Md.  
McClure & Co., Pittsburgh, Pa.  
Marlin & Co., Pittsburgh, Pa.

## Cooking Utensils.

Hill, Whitney & Wood Co., Boston, Mass.

## Conductor Pipe Machinery.

Poorman Mfg. Co., Piqua, O.

## Copper, Roofing and Cornice.

Gumme, McFarland & Co., Phila., Pa.  
Hussey, C. G. & Co., Pittsburgh, Pa.

## Copper Bottoms.

Hussey, C. G. & Co., Pittsburgh, Pa.

## Cornice Machinery.

Double Truss Cornice Brake Co., Buffalo, N. Y.  
Keene, Geo. O. & Co., Cincinnati, O.  
Ohl, Geo. A. & Co., Newark, N. J.  
Peck, Stow & Wilcox Co., 27 Murray St., New York.  
Robinson, J. M. & Co., Cincinnati, O.  
Tinners' Machinery & Supply Co., 26 Cliff St., N. Y.

## Cornice Work, Galvanized Iron.

Garry Iron & Steel Roofing Co., Cleveland, O.  
Marlin & Co., Pittsburgh, Pa.

## Couplings. (See Pipe Couplers.)

## Covering, Pipe and Boiler.

Johns, H. W. Mfg. Co., 100 William St., N. Y.

## Cupboards.

Rochester Stamping Works, Rochester, N. Y.

## Cut Offs, Rain Water.

Berger Bros. Co., Canton, O.  
Cooney, Selmer & Co., Indianapolis, Ind.  
Smith, W. A. & Co., Lima, Ohio.

## Dampers.

Berger Bros. Co., Phila., Pa.  
Greene, W. F., Troy, N. Y.  
Troy Nickel Works, Troy, N. Y.

## Die Stocks.

Crawford & Young, Boston, Mass.  
Curtis & Curtis, Bridgeport, Ct.

## Drop Hammers.

Bliss, E. W. Co., Brooklyn, N. Y.

## Dumb Waiteys.

Energy Mfg. Co., Phila., Pa.

## Eave Troughs.

Berger Bros. Co., Philadelphia, Pa.  
Berger Mfg. Co., Canton, O.  
Bowers, L. M. & Co., Binghamton, N. Y.  
Eller, J. H. & Co., Canton, O.  
Lyon, Conklin & Co., Baltimore, Md.  
Marlin & Co., Pittsburgh, Pa.  
Souther, E. E. Iron Co., St. Louis, Mo.

## Eave Trough Hangers.

Baker, J. R. & Sons Co., Kendallville, Ind.

Berger Mfg. Co., Canton, O.

Chautauqua Hanger Co., Mayville, N. Y.

Proudman Bros., Meriden, Conn.

## Eave Trough Machines.

Marlin & Co., Pittsburgh, Pa.

## Elbows.

Lawrence-Letts Elbow Co., Ltd., Waverly, N. Y.

## Electric Dynamo Machines.

Eddy Electric Mfg. Co., Windsor, Conn.  
Hanson & Van Winkle Co., Newark, N. J.  
Zucker & Levett & Loeb Co., 526-530 W. 25th St., New York.

## Electric Light and Power Apparatus.

Eddy Electric Mfg. Co., Windsor, Conn.

## Electric Motors.

Eddy Electric Mfg. Co., Windsor, Conn.

## Enameled Ware.

Lalance & Grosjean Mfg. Co., 19 Cliff St., N. Y.  
St. Louis Stamping Co., St. Louis, Mo.

## Expansion Tanks.

Koven, L. O. & Bro., 18 Spruce St., N. Y.

## Filters.

Carter Filter Co., Lockport, N. Y.

## Fire Brick.

Presbrey Stove Lining Co., Taunton, Mass.  
Valentine, M. D. & Bro. Co., Woodbridge, N. J.

## Fire Felt.

Johns, H. W. Mfg. Co., 100 William St., N. Y.

## Fire Sets.

Troy Nickel Works, Troy, N. Y.

## Furnace Cement, Asbestos.

Connors, William, Troy, N. Y.

## Furnace Pipe and Fittings.

Carton Furnace Co., Utica, N. Y.  
Excelsior Steel Furnace Co., Chicago, Ill.  
Safety Furnace Pipe Co., Detroit, Mich.

## Furnaces and Heaters.

Barstow Stove Co., Providence, R. I.  
Bergstrom Bros. & Co., Neenah, Wis.  
Bibb, E. C. Stove Co., Baltimore, Md.  
Brand Stove Co., Milwaukee, Wis.  
Carton Furnace Co., Utica, N. Y.  
Cory, Uzal & Co., 210 Water St., N. Y.  
Excelsior Steel Furnace Co., Chicago, Ill.  
Front Rank Steel Furnace Co., St. Louis, Mo.  
Giblin & Co., Utica, N. Y.  
Graft & Co., 208 Water St., N. Y.  
Griffing, A. A. Iron Co., 66-68 Centre St., N. Y.  
Howard Furnace Co., Syracuse, N. Y.  
Kernan Furnace Co., Utica, N. Y.  
Monroe Foundry & Furnace Co., Monroe, Mich.  
Richmond Stove Co., Norwich, Ct.  
Sheppard, Isaac A. & Co., Phila., Pa.  
Simonds Furnace Co., 50 Cliff St., N. Y.  
Tubular Heating & Ventilating Co., Phila., Pa.

## Furnaces, Plumbers' and Tinners'.

Burgess Soldering Furnace Co., Columbus, Ohio.

## Galvanized Ware.

Keen & Hagerty Mfg. Co., Baltimore, Md.  
Shepard, Sidney & Co., Buffalo, N. Y.  
Wetter, H. Mfg. Co., Memphis, Tenn.

## Gas Heaters. (See Stoves and Ranges, Gas.)

## Gas Machines.

Cleveland Gas Machine Co., Cleveland, Ohio.  
Kent, C. M. Mfg. Co., Baltimore, Md.

## Granite Ware.

St. Louis Stamping Co., St. Louis, Mo.

## Grates.

Jackson, W. Sons, 245 Front St., N. Y.

## Gutter Formers.

Whelan, Dennis, J., Troy, N. Y.

## Hammocks.

Palmer, I. E., Middletown, Ct.

## Hardware, Mfrs. of.

Arcade Mfg. Co., Freeport, Ill.

## Heat Regulators.

Howard Thermostat Co., Oswego, N. Y.

## Heaters, Steam and Hot Water.

Barstow Stove Co., Providence, R. I.  
Carton Furnace Co., Utica, N. Y.  
Drake, W. H., Newark, N. J.  
Excelsior Steel Furnace Co., Chicago, Ill.  
Gorton & Lidgerwood Co., 96 Liberty St., New York.  
Griffing, A. A. Iron Co., 66-68 Centre St., N. Y.  
Gurney Heater Mfg. Co., Boston, Mass.  
Howard Furnace Co., Syracuse, N. Y.  
Magee Furnace Co., Boston, Mass.  
Mitchell Heater Co., Poughkeepsie, N. Y.  
Mowry, W. C., Norwich, Conn.  
National Pipe Bending Co., New Haven, Conn.  
Putnam Foundry & Machine Co., Putnam, Conn.  
Richmond Stove Co., Norwich, Conn.  
Smith Co., H. B., 195 Centre St., N. Y.  
Vance Steam Boiler Works, Geneva, N. Y.

## Hollow Ware.

Kleckhefer Bros. Co., Milwaukee, Wis.  
Lalance & Grosjean Mfg. Co., 19 Cliff St., New York.  
St. Louis Stamping Co., St. Louis, Mo.  
Sperry, D. R. & Co., Batavia, Ill.

## Hollow Ware, Aluminum.

Illinois Pure Aluminum Co., Lemont, Ill.

## Hydraulic Rams.

Hanson, F. B., 175 Centre St., N. Y.

## Iron, Galvanized Sheet. (See Sheets, Galvanized.)

## Iron, Planished Sheet.

Wood, W. D. Co., McKeesport, Pa.

## Iron and Steel Sheet. (See Sheets, Iron and Steel.)

## Iron Shutters and Doors.

Garry Iron & Steel Roofing Co., Cleveland, Ohio.

## Lath, Metallic.

American Corrugating Co., St. Louis, Mo.  
Schrattweisers Metal Lath Works.

## Lavatories.

Wheeler, E. S. & Co., New Haven, Ct.

## Lead Pipe.

Colwell Lead Co., 63 Centre St., N. Y.

## Lemon Squeezers.

Arcade Mfg. Co., Freeport, Ill.

## Lighting Rods.

Washburne, E. G. & Co., 46 Cortlandt St., N. Y.

## Metal Ceilings. (See Ceilings, Metallic.)

Munsell, Eugene & Co., 218 Water St., New York.

## Milk Cans.

Kleckhefer Bros. Co., Milwaukee, Wis.  
Lalance & Grosjean Mfg. Co., 19 Cliff St., N. Y.  
Shepard, Sidney & Co., Buffalo, N. Y.

## Molding Frames.

Acme Machine Co., Cincinnati, O.

## Mop Sticks.

Arcade Mfg. Co., Freeport, Ill.

## Nickel Plating Outfits.

Eddy Electric Mfg. Co., Windsor, Conn.  
Hanson & Van Winkle Co., Newark, N. J.  
Zucker & Levett & Loeb Co., 526-530 W. 25th St., New York.

## Oil Heaters. (See Stoves and Ranges, Oil, Vapor and Gasoline.)

## Ovens, Portable.

Blodgett, G. S. Co., Burlington, Vt.  
Franke, H., Cleveland, Ohio.

## Patent Solicitors.

Henson & Howson, Philadelphia, Pa.  
Stocking, E. B., Washington, D. C.

## Patterns.

Cope, Geo. W., Detroit, Mich.  
Gobelle Pattern Co., Cleveland, Ohio.  
Vedder Pattern Wks., Troy, N. Y.

## Pattern Cutting.

Montague, Chas. D., Springfield, Mass.

## Pig Iron.

Wister, L. & R. & Co., Philadelphia, Pa.

## Pipe Fitter and Crimper.

Blumer, Doscher Mfg. Co., Brooklyn, N. Y.

## Pipe Hangers.

Fee & Mason, 66 Beekman St., N. Y.

## Pipe Joint Grease.

Dixon, Jos. Crucible Co., Jersey City, N. J.

## Pipe, Water and Gas.

Millar, C. & Son, Utica, N. Y.

## Plumbers' Tools, Specialties and Supplies.

Amer. Electrical Heater Co., Detroit, Mich.  
Barstow Stove Co., Providence, R. I.  
Colwell Lead Co., 63 Centre St., N. Y.  
Crawford & Young, Boston, Mass.  
Fee & Mason, 66 Beekman St., N. Y.  
Kelly, Thos. & Bros., Chicago, Ill.  
National Pipe Bending Co., New Haven, Conn.

Peck Bros. & Co., New Haven, Conn.

Ryan, Thos. W., Concord Junction, N. H.

Stebbins, E. Mfg. Co., Brightwood, Mass.

Tinners' Machinery & Supply Co., 26 Cliff St., New York.

Vanderman Plumbing & Heating Co., Williamsville, Conn.

Wheeler, E. S. & Co., New Haven, Ct.

Wilson, R. M. Mfg. Co., Rome, N. Y.

## Pokers and Lifters.

Troy Nickel Works, Troy, N. Y.

## Potato Masher.

Vogel, Wm. & Bros., 37 to 47 S. 9th St., Brooklyn, N. Y.

## Presses and Dies.

Adrian Mach. Works, Brooklyn, N. Y.  
Bliss, E. W. Co., Brooklyn, N. Y.  
Gordon, W. J., Philadelphia, Pa.  
Miner & Peck Mfg. Co., New Haven, Conn.

Niagara Machine & Tool Wks., Buffalo, N. Y.

Robinson, J. M. & Co., Cincinnati, O.

Stiles, E. S. Press Co., Watertown, N. Y.

Stiles & Parker Press Co., Brooklyn, N. Y.

Toledo Machine & Tool Co., Toledo, O.

West Mfg. Co., Buffalo, N. Y.

## Punching Machines.

Bertsch & Co., Cambridge City, Ind.  
Bliss, E. W. Co., Brooklyn, N. Y.  
Clough, R. M. Tolland, Conn.  
Robinson, J. M. & Co., Cincinnati, O.

## Radiators, Steam and Hot Water.

Griffing, A. A. Iron Co., 66-68 Centre St., N. Y.  
Gurney Heater Mfg. Co., Boston, Mass.  
Smith, H. B. Co., 135 Centre St., N. Y.

## Range Boilers.

Iron Clad Mfg. Co., 22-24 Cliff Street, N. Y.

Koven, L. O. & Bro., 18 Spruce St., N. Y.

## Reflectors.

Frank, I. P., 551 Pearl St., New York.

## Refrigerators.

Bowen Mfg. Co., Fond du Lac, Wis.

Gurney Refrigerator Co., Fond du Lac, Wis.

## Registers.

Excelsior Steel Furnace Co., Chicago, Ill.  
Ferrosteel Co., Cleveland, O.  
Highton, Wm. & Sons, Boston, Mass.

## Roofing, Terne.

Atlanta Steel & Tin Plate Co., Atlanta, Ind.

## Roofing Cement and Paint.

Connors, Wm., Troy, N. Y.  
Dixon, Jos. Crucible Co., Jersey City, N. J.  
Kansas City Roofing & Cor. Co., Kansas City, Mo.

## Roofing Edger.



**Sheet Metal Machinery.**

Acme Machine Co., Cincinnati, O.  
 Adriance Mach. Works, Brooklyn, N.Y.  
 Bertsch & Co., Cambridge City, Ind.  
 Bliss, E. W. Co., Brooklyn, N. Y.  
 Clough, R. M., Tolland, Conn.  
 Double Truss Cornice Brake Co., Buffalo, N. Y.  
 Keene, Geo. C. & Co., Cincinnati, O.  
 Miner & Peck Mfg. Co., New Haven, Conn.  
 Niagara Machine & Tool Wks., Buffalo, N. Y.  
 Ohl, Geo. A. & Co., Newark, N. J.  
 Peck, Stow & Wilcox Co., 27 Murray St., New York.  
 Pocock, O., Cincinnati, O.  
 Poorman Mfg. Co., Piqua, Ohio.  
 Robinson, J. M. & Co., Cincinnati, O.  
 Stiles, E. S. Press Co., Watertown, N.Y.  
 Stiles & Parker Press Co., Brooklyn, N. Y.  
 Toledo Mach. & Tool Co., Toledo, O.  
 West Mfg. Co., Buffalo, N. Y.  
 Whelan, Dennis J., Troy, N. Y.

**Sheet Metal Work.**

Willis Mfg. Co., Galesburg, Ill.

**Sheets, Iron and Steel.**

Apollo Iron & Steel Co., Pittsburgh, Pa.  
 Atna-Standard Iron & Steel Co., Bridgeport, O.  
 Bruce & Cook, 186 to 190 Water St., N. Y.  
 Cincinnati Corrugating Co., Piqua, O.  
 Coe, Jas. A. & Co., Newark, N. J.  
 Follansbee Bros. Co., Pittsburgh, Pa.  
 Gummey, McFarland & Co., Phila., Pa.  
 Lyon, Conklin & Co., Baltimore, Md.  
 McCullough Iron Co., Wilmington, Del.  
 Morton Tin Plate Co., Cambridge, O.  
 Osborn, J. M. & L. A., Cleveland, O.  
 St. Louis Stamping Co., St. Louis, Mo.  
 Taylor, N. & G. Co., Philadelphia, Pa.  
 Wood, W. D. Co., McKeesport, Pa.  
 Wood Alan Co., Philadelphia, Pa.

**Sheets, Galvanized.**

Atna-Standard Iron & Steel Co., Bridgeport, O.  
 Apollo Iron & Steel Co., Pittsburgh, Pa.  
 Bruce & Cook, 186 to 190 Water St., N. Y.  
 Cinn. Corrugating Co., Piqua, Ohio.  
 McCullough & Co., Pittsburgh, Pa.  
 McCullough Iron Co., Wilmington, Del.  
 Taylor, N. & G. Co., Philadelphia, Pa.  
 Wood Alan Co., Philadelphia, Pa.

**Shingles and Tiles, Metallic.**

Berger Mfg. Co., Canton, O.  
 Burden, W. J. & Co., Detroit, Mich.  
 Cortright Metal Roofing Co., Philadelphia, Pa.  
 Iron City Mfg. Co., Pittsburgh, Pa.  
 Meurer Bros. Co., Brooklyn, N. Y.  
 Montross Metal Shingle Co., Camden, N. J.  
 Thorn Shingle & Ornament Co., Philadelphia, Pa.

**Shot.**

Colwell Lead Co., 63 Centre St., N. Y.

**Siding. (See Roofing and Siding.)**

**Skylights.**  
 Rasuer & Dinger, Pittsburgh, Pa.

**Slaters' Tools.**

Galt, Juno & Sons, 253 Broadway, N. Y.  
 Salein Nail Co., 292 Pearl St., N. Y.

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Whelan, Dennis J., Troy, N. Y.

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Halliday, M., East 9th St., N. Y.

**Solder.**

Bruce & Cook, 186 to 190 Water St., N.Y.  
 Follansbee Bros. Co., Pittsburgh, Pa.  
 Gummey, McFarland & Co., Phila., Pa.  
 McClure & Co., Pittsburgh, Pa.  
 Meurer Bros. Co., Brooklyn, N. Y.  
 Sanborn, J., 217 Water St., N. Y.  
 Taylor, N. & G. Co., Philadelphia, Pa.

**Soldering Copper Handles.**

Cleveland Rule & Handle Co., Cleveland, O.

**Soldering Furnaces.**

Burgess Soldering Furnace Co., Columbus, Ohio.

**Soldering Irons.**

Amer. Electrical Heater Co., Detroit, Mich.

**Speaking Tubes and Whistles.**

Ostrand, W. R. & Co., 204 Fulton St., N. Y.

**Specialties, Sheet Metal.**

Vogel, Wm. & Bros., Brooklyn, N. Y.

**Spring Hinges.**

Stover Mfg. Co., Freeport, Ill.

**Stamped Ware, Aluminum.**

Illinois Pure Aluminum Co., Lemont, Ill.

**Steam and Gas Fitters' Supplies.**

Curtis & Curtis, Bridgeport, Conn.  
 Kieley, T., 7-11 West 18th St., N. Y.

**Steel Stamps and Stencil Dies.**

Schwerdtle & Siebert, Bridgeport, Ct.

**Stove Linings.**

Marcy Stove Repair Co., 74 Beekman St., N. Y.  
 Presbrey Stove Lining Co., Taunton, Mass.

Valentine, M. D. & Bro. Co., Woodbridge, N. J.  
 Williams Stove Lining Co., Taunton, Mass.

**Stove and Metal Polish.**

Hoffman, Geo. W., Indianapolis, Ind.

**Stove Patterns.**

Bates & Dix, Providence, R. I.  
 Cope, G. W., Detroit, Mich.  
 Forest City Fdry. & Mfg. Co., Cleveland, Ohio.

Gobelle Pattern Co., Cleveland, O.  
 Vedder Pattern Works, Troy, N. Y.

**Stove Pipe.**

Berger Bros. Co., Phila., Pa.

**Stove Pipe Collars.**

Paxton Hdw. Co., Paxton, Ill.

**Stove Pipe Thimbles.**

Cheney, S. & Son, Manlius, N. Y.

**Stove Putty.**

Connors, Wm., Troy, N. Y.

**Stove Repairs.**

Brauer, A. G., St. Louis, Mo.  
 Marcy Stove Repair Co., 74 Beekman St., N. Y.  
 Troy Nickel Works, Troy, N. Y.

**Stove Trimmings, &c.**

Greene, W. E., Troy, N. Y.  
 Troy Nickel Works, Troy, N. Y.

**Stoves and Ranges.**

Beckwith, P. D., Est. of, Dowagiac, Mich.  
 Bergstrom Bros. & Co., Neenah, Wis.  
 Bibb, B. C. Stove Co., Baltimore, Md.  
 Brand Stove Co., Milwaukee, Wis.  
 Graft & Co., 208 Water St., N. Y.  
 Hess, Snyder & Co., Massillon, O.  
 Magee Furnace Co., Boston, Mass.  
 Portsmouth Stove & Range Co., Portsmouth, O.  
 Richmond Stove Co., Norwich, Ct.  
 Sheppard, Isaac A. & Co., Phila., Pa.  
 Van, John, Range Co., Cincinnati, O.  
 Veir Stove Co., Taunton, Mass.  
 White-Warner Co., Taunton, Mass.

**Stoves and Ranges, Oil, Vapor and Gasoline.**

Barstow Stove Co., Providence, R. I.  
 Cleveland Foundry Co., Cleveland, O.  
 Monarch Stove & Mfg. Co., Mansfield, Ohio.

**Tea Kettles.**

Hill-Whitney & Wood Co., Boston, Mass.

Rochester Stamping Wks., Rochester, N. Y.

**Tea Pots.**

Rochester Stamping Works, Rochester, N. Y.

**Tinners' Tools, Machines and Supplies.**

Amer. Electrical Heater Co., Detroit, Mich.  
 Berger, L. D., Philadelphia, Pa.  
 Berger Bros. Co., Phila., Pa.  
 Bertsch & Co., Cambridge City, Ind.  
 Bishop, G. E., Dowagiac, Mich.  
 Bliss, E. W. Co., Brooklyn, N. Y.

Bruce & Cook, 186 to 190 Water St., N. Y.  
 Follansbee Bros. Co., Pittsburgh, Pa.  
 Keene, Geo. C. & Co., Cincinnati, O.  
 Niagara Machine & Tool Wks., Buffalo, N. Y.

Ohl, Geo. A. & Co., Newark, N. J.  
 Peck, Stow & Wilcox Co., 27 Murray St., New York.

Stiles & Parker Press Co., Brooklyn, N. Y.  
 Tinners' Machinery & Supply Co., 26 Cliff St., N. Y.

West Mfg. Co., Buffalo, N. Y.

**Tinners' Trimmings.**

Vogel, Wm. & Bros. Brooklyn, N. Y.

**Tin Plate. (Mfrs. of.)**

Atna-Standard Iron & Steel Co., Bridgeport, O.  
 Atlanta Steel & Tin Plate Co., Atlanta, Ind.  
 Beaver Tin Plate Co., Lisbon, Ohio.  
 Berger, L. D., Philadelphia, Pa.  
 Bruce & Cook, 186 to 190 Water St., New York.  
 Coe, Jas. A. & Co., Newark, N. J.  
 Ellwood Tin Plate Co., Ellwood City, Pa.  
 Follansbee Bros. Co., Pittsburgh, Pa.  
 Gummey, McFarland & Co., Phila., Pa.  
 Lyon, Conklin & Co., Baltimore, Md.  
 McClure & Co., Pittsburgh, Pa.  
 Meurer Bros. Co., Brooklyn, N. Y.  
 Morton Tin Plate Co., Cambridge, Ohio.  
 Osborn, J. M. & L. A., Cleveland, Ohio.  
 Taylor, N. & G. Co., Philadelphia, Pa.

**Tinware.**

Keen & Hagerty Mfg. Co., Baltimore, Md.  
 Kleckhefer Bros. Co., Milwaukee, Wis.

**Tools and Machines, Steam and Gas Fitters'.**

Curtis & Curtis, Bridgeport, Conn.  
 Saunders' D. Sons, Yonkers, N. Y.

**Valves.**

Eastwood Wire Mfg. Co., Belleville, N. J.  
 Goodrich, Judson A. Co., 120 Beekman St., N. Y.  
 Jenkins Bros., 71 John St., New York.  
 Gihlin & Co., Utica, N. Y.

**Ventilators and Chimney Caps.**

Canton Steel Roofing Co., Canton, O.  
 Globe Ventilator Co., Troy, N. Y.  
 Meurer Bros. Co., Brooklyn, N. Y.  
 Washburne, E. G. & Co., 46 Cortlandt St., New York.

**Washtubs.**

Keen & Hagerty Mfg. Co., Baltimore, Md.

**Washers, Valves, &c.**

Littleford Bros., Cincinnati, O.  
 Marston, I. G. & Co., Boston, Mass.

**Washing Machines.**

Anthony Wayne Mfg. Co., Fort Wayne, Ind.

**Water Closets.**

Colwell Lead Co., 63 Centre St., N. Y.  
 Kelly, Thos. & Bros., Chicago, Ill.  
 Peck Bros. & Co., New Haven, Conn.  
 Wheeler, E. S. & Co., New Haven, Ct.

**Water Heaters.**

Iron Clad Mfg. Co., 22 & 24 Cliff St., N. Y.  
 Kemp, C. M. Mfg. Co., Baltimore, Md.

**Wind Gates.**

Miner & Peck Mfg. Co., New Haven, Ct.

SEE ALPHABETICAL INDEX, PAGE 53.

# THE METAL WORKER.

With which is Incorporated The Stove and Tin Trade Journal, The Sheet Metal Builder, and Metal.

Published Weekly at the Following Subscription Price:

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# LABOR EXCHANGE.

Notices under this heading of reasonable length are inserted free of charge. Only those relating to employment are admitted. Write distinctly on one side of paper only, and do not use postal cards.

Original letters of reference should not be inclosed with replies to advertisements appearing in these columns, as they are frequently mislaid and lost. A copy of the reference will serve the purpose.

## HELP WANTED.

A first-class iron PATTERN FITTER; one who has had experience on stove work and is capable of taking charge of that department. "C., 910 East Clay street, Richmond, Va. April 23

First-class STOVE SALESMAN for the New England States, also New York, New Jersey and Pennsylvania, to sell a well-known line of stoves and ranges on commission; liberal terms will be made with a good hustler. "J. D. G., office of *The Metal Worker*, 232-238 William street, New York City. April 23

A first-class PLUMBER and TINSMITH who understands sanitary plumbing, steam and hot water heating and pump work; must be an A1 mechanic, smooth and quick worker, strictly sober and able to estimate on plumbing; man who can speak German and English preferred; town of 12,000 inhabitants in New York State; state age and wages. "A. Z., No. 423," office of *The Metal Worker*, 232-238 William street, New York City. April 23

By May 1, PLUMBER and TINNER who can do all work usually done in a country shop, wipe a fair joint and assist at roofing, spouting, &c.; young man preferred; steady work for the right one; one of the best little cities in Northern Illinois; state wages expected. P. O. Box 630, Sycamore, Ill. April 23

By Atlanta Stove Works, Atlanta, Ga. We are building a new plant and will want another first-class IRON PATTERN FILER, FITTER and DRESSER; only an energetic, reliable, first-class man need apply. April 23

COMMISSION MEN to handle tinner's supplies, roofing tin plates, &c., to travel in Illinois, Indiana, Iowa and Wisconsin. "Tinner's Supplies," office of *The Metal Worker*, 59 Dearborn street, Chicago, Ill. April 23

At once, a PLUMBER, STEAM and GAS FITTER who can lay out work and figure from plans, do furnace, tin work and bicycle repairing; we want a sober man to take charge of our shop; work is steady, so make price accordingly. Lock Box 1123, Lyons, N. Y. April 23

An experienced TIN and SHEET IRON WORKER for in and outside work, also cornice and skylights; must be able to take charge of any of these jobs if necessary; steady work. Osmar Poeschel, 612 Spring street, West Hoboken, N. J. April 23

At once, an all-round TINNER; one accustomed to hot air furnace work preferred. R. M. Elliott, Coshocton, Ohio. April 16

A thoroughly good PLUMBER and GAS FITTER; one capable of estimating on work; must be temperate and reliable; one with some knowledge of roofing and spouting preferred. Address, stating wages and experience, Caldwell Mfg. Company, Caldwell, Ohio. April 16

A thoroughly competent and reliable CORNICE WORKER and ROOFER as estimator and general foreman; must measure and calculate accurately and be steady and industrious; permanent situation at fair salary for right man. Address, with references, E. S. Bortel & Co., 2013 Market street, Philadelphia, Pa. April 16

A CORNICE CUTTER; one who understands plumbing; steady position to right man; state wages. "N. B., office of *The Metal Worker*, 232-238 William street, New York City. April 16

An experienced TIN PLATE SALESMAN to cover territory in Southern Ohio, Indiana and Illinois; must furnish good references. Address, stating salary expected, "Tin Plate," office of *The Metal Worker*, Rooms 509-510 Hamilton Building, Pittsburgh, Pa. April 16

A good all around TIN and SHEET IRON WORKER; must understand iron piping and have some knowledge of plumbing; must be sober and reliable; married man preferred. "Hardware," Box 597, Fairport, N. Y. April 16

By a large manufacturing concern, a FOREMAN for tinning, retinning and galvanizing department; must be thoroughly experienced in the practical and chemical knowledge required to conduct such a department on the most approved methods; must be capable of handling men; temperate, industrious and faithful; state qualifications and experience. "Retinner, No. 49," office of *The Metal Worker*, 232-238 William street, New York City. April 9

A first-class TINSMITH; must be familiar with hotel and restaurant work. S. J. Rand & Co., 80 North street, Boston. April 16

A first-class TIN, COPPER and SHEET IRON WORKER who is thoroughly skilled in the manufacture of coffee urns and carving tables; must be reliable and strictly temperate; state with whom employed on these goods, where last employed, and wages desired. "Tinsmith," office of *The Metal Worker*, 232-238 William street, New York City. April 16

## SITUATIONS WANTED.

By a practical all round man of 20 years' experience; will be open for engagement by May 1; can do a first-class job of plumbing, gas fitting, furnace, range and heater work and all kinds of outside work. "Tinsmith and Plumber," South Amboy, N. J. April 23

By a practical PLUMBER and GAS FITTER; can do roofing and leader work, and general jobbing as done in country shops; married; temperate; years of experience; prefers country shop where can have steady work; wages after consideration. O. G. Plummer, General Delivery, New Haven, Conn. April 23

As BOOKKEEPER and STENOGRAPHER; three years' experience as bookkeeper for gas fitting, plumbing and heating establishment; can furnish best of reference. "L. P., Box 378, Parkersburg, W. Va. April 23

Young man, sober, honest and capable, wants position of management with some large firm. Lawrence M. Dooley, Station O, Philadelphia, Pa. April 23

By a PLUMBER and GAS FITTER; ten years' experience. A. Miller, 583 Broadway, Kingston, N. Y. April 23

PLUMBER; first-class mechanic; city or country; references. Chas Murray, 215 West Thirty-first street, New York City. April 23

By a first-class STOVE PATTERN FILER and FITTER. Richard Meissner, 135 West Michigan street, Evansville, Ind. April 23

By TINSMITH; general mechanic on inside and outside work; also good on hot air furnace work; a conscientious, sober workman; steady employment; city or country. "Fair Pay," office of *The Metal Worker*, 232-238 William street, New York City. April 23

As FOREMAN and first-class cornice and skylight cutter; good draftsman; can estimate, take charge of shop and handle men to best advantage; best of reference. "Foreman," office of *The Metal Worker*, Rooms 22-24 Pickering Building, Cincinnati, Ohio. April 23

By a first-class iron STOVE PATTERN FITTER; years of experience at the business in some of the best foundries in the country; can do up to date work. "Pattern Fitter," 447 Master street, Buffalo, N. Y. April 23

By a first-class PLUMBER; wages \$3 per day. H. Webber, 427 East Seventy-eighth street, New York City. April 23

By a first-class PLUMBER of 14 years' experience. David Furlong, 237 East Forty-fifth street, New York City. April 23

A FURNACE SALESMAN, covering part of New York State and New England, would like to add goods suitable for the hardware and plumbing trade on commission. "S. A. G., office of *The Metal Worker*, 232-238 William street, New York City. April 23

As traveling or resident SALESMAN for a heating and ventilating firm, by a young man 27 years of age, who has had five years' experience as resident salesman and thoroughly understands the business; can furnish best of references as to character, ability, &c. "L. F. C., office of *The Metal Worker*, 232-238 William street, New York City. April 23

By a japanner as FOREMAN; understands all branches of the business; can give good references. Fred J. Beck, 1801 Freeman avenue, Cincinnati, Ohio. April 23

A young man who has had three years' experience in tin and sheet iron works on furnaces and ranges desires to finish trade; also handy around a hardware store; city or country. M. Levy, 308 East Eighty-second street, New York City. April 23

A steady job in a country town, by a TINSMITH; 18 years' experience at tin, sheet iron, stove, range, furnace, inside and outside work; willing to work cheap for good place; married, sober and honest. "Tinsmith," 1227 Thirty-second street, West, Washington, D. C. April 23

Practical PLUMBER, GAS, STEAM and HOT WATER FITTER of 25 years' experience desires position; can take charge of the shop, estimate, &c., control mechanics and assume all the functions of a foreman; competent on sanitary work; can handle a job of any size; reasonable compensation desired, and best of references furnished and required. "I. H. P., office of *The Metal Worker*, 232-238 William street, New York City. April 23

By a practical CORNICE MAKER and SHEET IRON WORKER; can take charge of shop if required; good references. "Sheet Iron Works," 339 West Harrison street, Chicago, Ill. April 23

By a good all round TINSMITH, ROOFER, GENERAL JOBBER and FURNACEMAN; understands iron pipe and hot water work; wages moderate. "T., 48 Hicks street, Brooklyn, N. Y. April 23

By a CORNICE and SKYLIGHT MAKER, CUTTER and SHEET IRON WORKER in a shop where there would be a chance to learn cutting if possible. "E. F. B., office of *The Metal Worker*, 232-238 William street, New York City. April 23

By a SALESMAN of 18 years' experience in the stove, tinware and plumbing and steam fitting supply business; 12 years as traveling salesman through Connecticut and Massachusetts. "G. W. S., 104 Hawthorn street, Chelsea, Mass. April 23

A first-class PLANISH WORKER of 15 years' experience, who can raise his own work on the wheeling machine and also used to first-class jobbing, desires a position; city or country. William Henry, care of Richards & Rothman, 1543 Broadway, Brooklyn, N. Y. April 23

Steady position by a TINSMITH and ALL AROUND JOBBER; hot air heating and range work; capable of taking charge and estimating on all branches of work; ten years' experience running a jobbing shop; married; best of references if required; city or country. W. S. Guyon, 112 West 134th street, New York City. April 23

Young man 19 years of age, who has had one and one-half years' experience as TINSMITH, desires to finish the trade; 5 feet 9 inches, weighing 165 pounds; from the country. Wm. Potts, Orwigsburg, Pa. April 23

FOREMAN and CUTTER, by a first-class sheet metal worker; thoroughly understands the business in every detail; competent to handle help to best advantage; not afraid to work; wages moderate; can give reference if required. Williams, 319 Atlantic avenue, Brooklyn, N. Y. April 23

Young man of 20, temperate, intelligent and energetic, having three years' experience in tin shop, desires situation as tinner. Box 218, Odell, Ill. April 23

In a hardware store or tin shop, by a young man of good habits and willing to work; has had about four years' experience at roofing, spouting, furnace and range work, and all kinds of repairing, also plain plumbing; can furnish reference. Fayette L. Archer, Box 94, Copenhagen, N. Y. April 23

A first-class PLUMBER who thoroughly understands the business in all its branches wants steady job; ten years' experience; best of references. "A. F., office of *The Metal Worker*, 232-238 William street, New York City. April 23

As TRAVELING SALESMAN, by a man acquainted with hollow ware, metals and hardware specialties; have visited jobbers and retailers. W. A. Stephenson, 195 South Center street, Springfield, Ohio. April 9

By a first-class PLUMBER, GAS and STEAM FITTER; 35 years' experience. Thomas Harvey, 239 West Sixty-seventh street, New York City. April 16

By TINSMITH of ten years' experience; sober; best of references; married; wages moderate. E. B. Peck, York, Livingston County, N. Y. April 16

By a SLATER. M. A. Dugan, 210 Hamilton street, Albany, N. Y. April 16

By a first-class TINNER; can do pipe fitting, hot water heating, pump work and bicycle repairing; steady position wanted. A. Miller, General Delivery, Marietta, Ohio. April 16

STEAM and HOT WATER FITTER; A1; thoroughly competent on large or small plants; take entire charge if necessary; can overcome obstacles; specialty in overhauling plants; references. "J. G. B., office of *The Metal Worker*, 232-238 William street, New York City. April 16

By a TIN and SHEET IRON WORKER and first-class retinner; 18 years' experience; sober man; wages moderate. George Orolo-witz, 707 South Third street, Philadelphia, Pa. April 16

By a first-class PLUMBER and GAS FITTER; also steam and hot water heating; highest reference from last employer. "Cummings," 237 West Sixty-seventh street, New York City. April 16

Young man of 23, strictly sober, intelligent and energetic, having three years' experience at roofing and cornice work, desires situation at same where good workmanship and neatness are required. R. Plortner, 534 East 164th street, New York City. April 16



**Special Notices.****FOR SALE.**

2 No. 3½ Bliss Power Presses.  
3 small Bliss Foot Presses.  
2 No. 1 Foot Presses.  
1 small Drop Hammer.  
1 large Steam Drop.  
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1 No. 6 Medium Drop.  
1 Double Seamer.  
The above are all in perfect order and will be sold at low prices.

OSCAR WARNER,  
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Stove, Tin, Hardware and Plumbing business. This is an old established business, the only business of the kind in town. Will inventory about two thousand dollars. Reason for selling, too much other business.

E. A. ALLEN,  
Huntington, Mass.

**For Sale.**

Plumbing and Stove business for sale in Red Bank, N. J. Books open. Address for particulars  
THOMAS CUMBERSON,  
Red Bank, N. J.

**FOR SALE.**

The best Tinshop and Stand in Denver, Colo., for \$1100.00 cash. Address

"HOTEL AND KITCHEN STORE,"

Office of *The Metal Worker*, 59 Dearborn St., Chicago.

**A Rare Opportunity****For Retail Furnace Dealers.**

The maker of a line of first-class up to date **All Cast Iron Furnaces** of popular pattern will sell his goods at **low Foundry prices** for a limited time, to introduce them. Goods to be returned if not as represented. Ask for particulars and you will be astonished. Address

"K. H. B.,"

Office of *The Metal Worker*, 312 The Cuyahoga, Cleveland, O.

**FOR SALE.**

I will sell cheap an old established Furnace, Range, Roofing and Jobbing shop. On leading business street. I am now manufacturing tinware and cannot attend to both businesses. A good chance for one or two men who understand the business. No charge for good will. Work coming in every day.

JOHN W. WALLACE,  
329 Myrtle Ave., Brooklyn, N. Y.

**FOR SALE.**

Full set of second-hand tinner's tools.  
Address EDW. GREENHALGH,  
Wellsboro, Pa.

**RANGE MANUFACTURERS.**

Are you making a new Range or remodeling an old one? If so I have something new which will interest you. It is not a humbug, but something useful which every house-keeper wants. For particulars address BOX 8306, Boston, Mass.

**FOR SALE.**

Whole or half interest in a Tin, Heating and Plumbing store; good location and employing five to seven hands the year round and enjoying good patronage. Address "F. G. H.," office of *The Metal Worker*, 232-238 William St., New York.

**FOR SALE.**

The oldest established Stove, Tin Shop and Plumbing establishment in the city of Holyoke, Mass. Best of reasons for selling.  
LYMAN & CO.  
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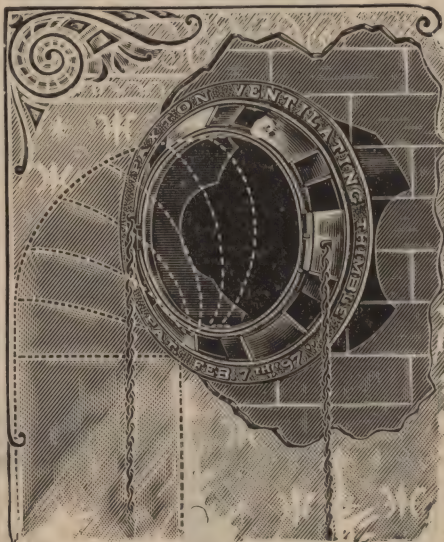
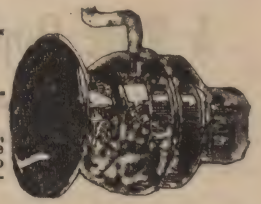
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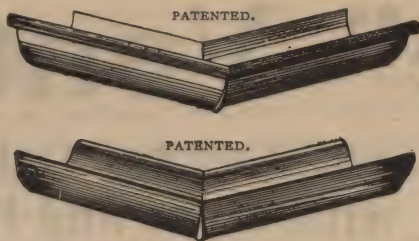


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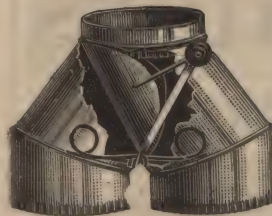
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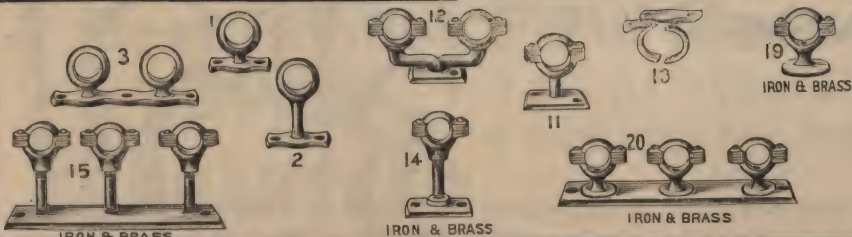
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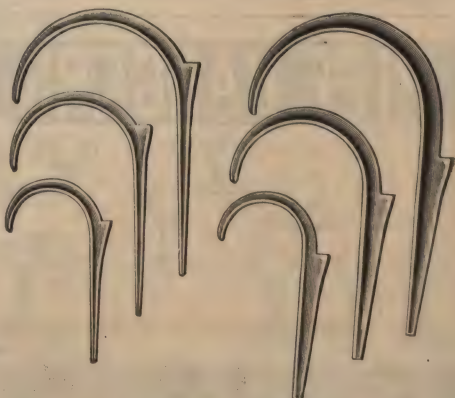
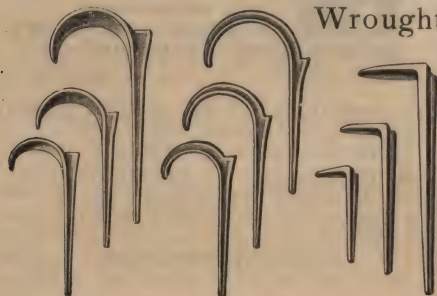
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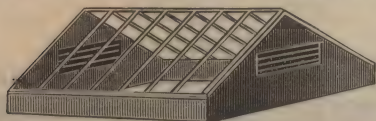
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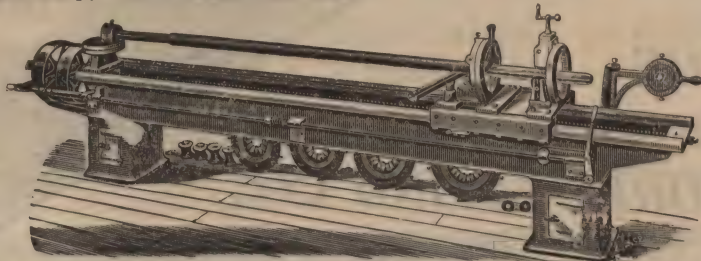
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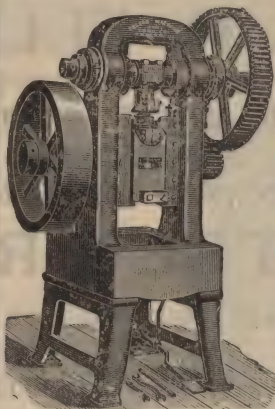
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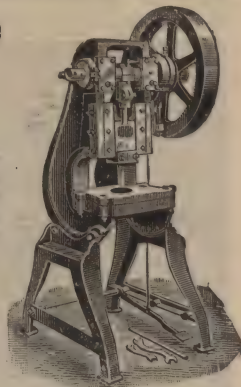
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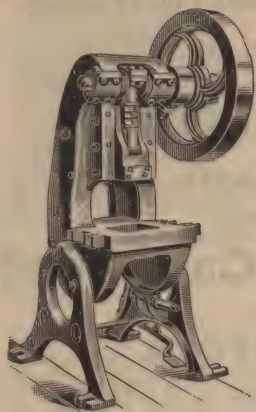
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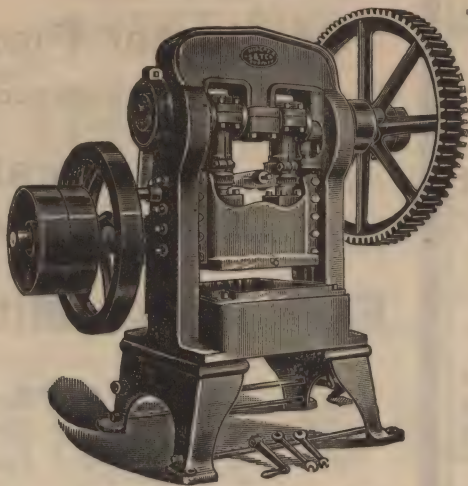
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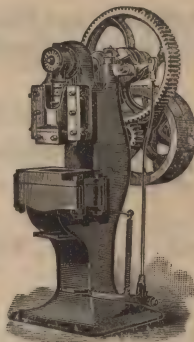
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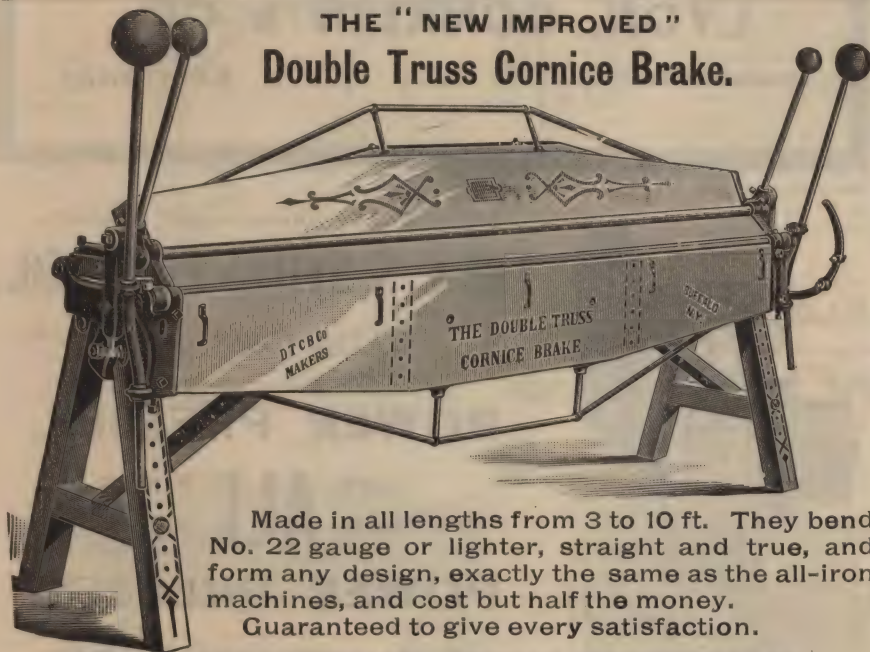
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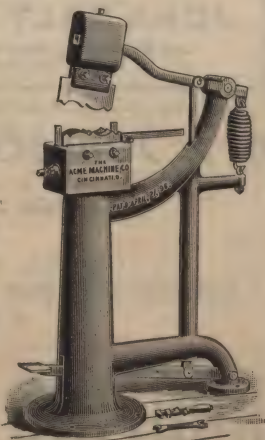
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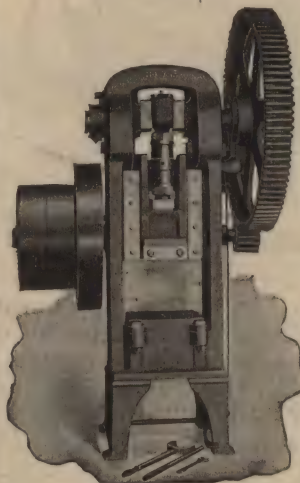
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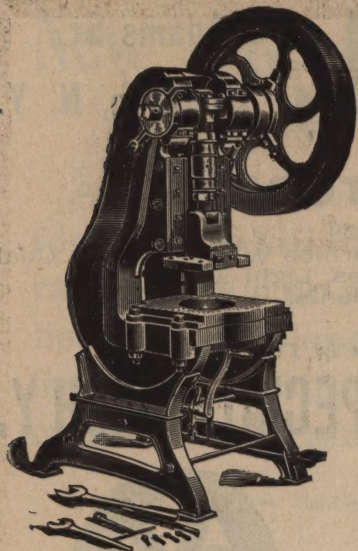
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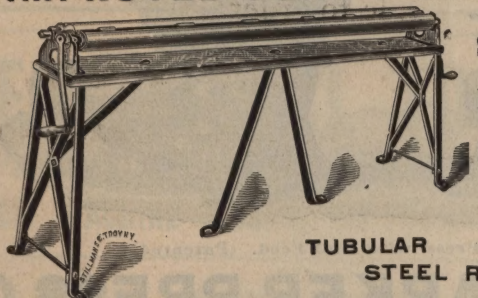
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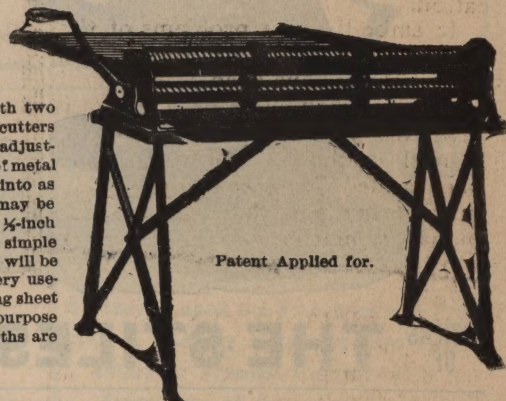
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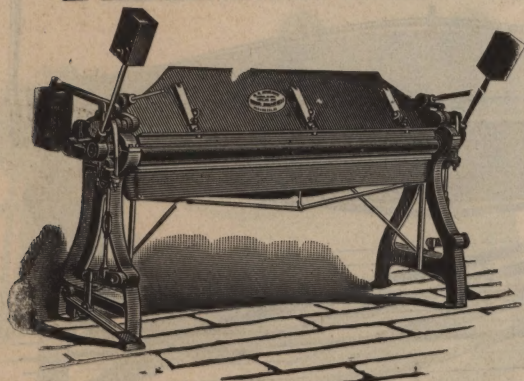
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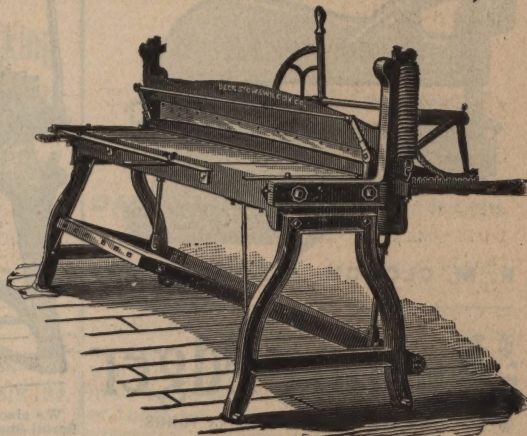
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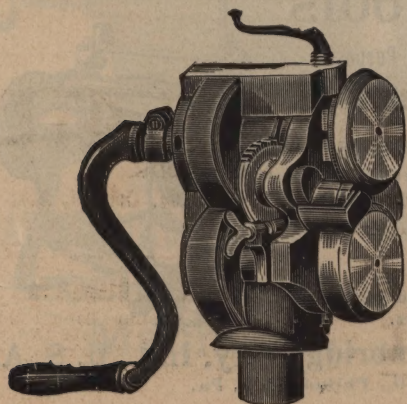
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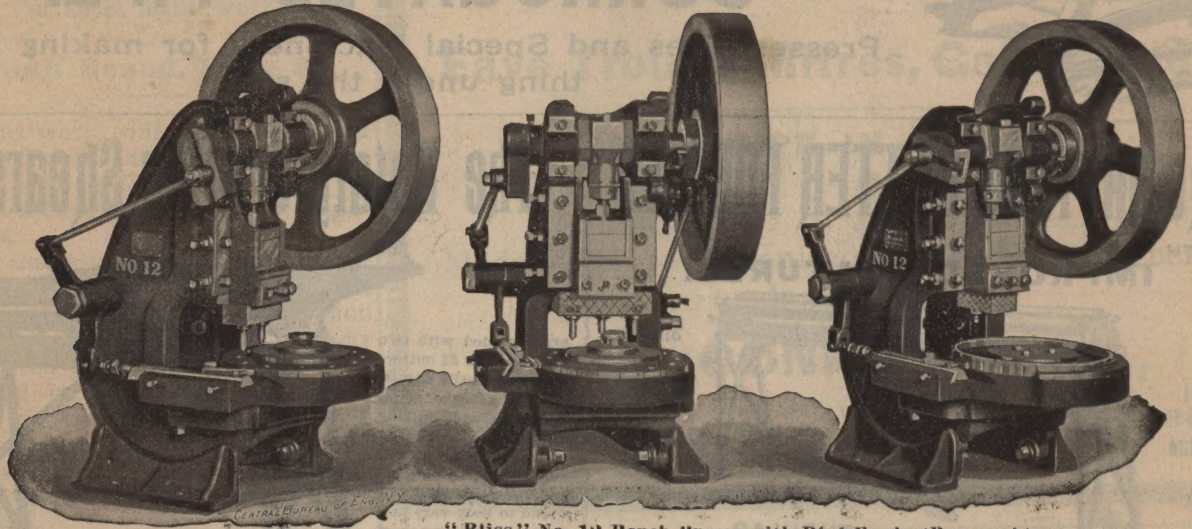
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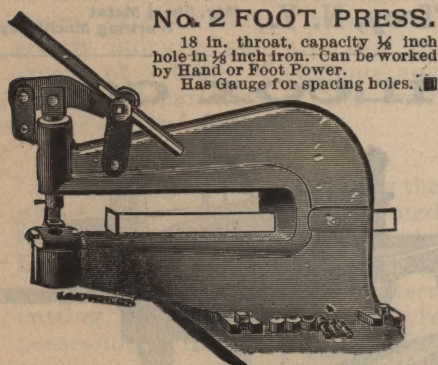
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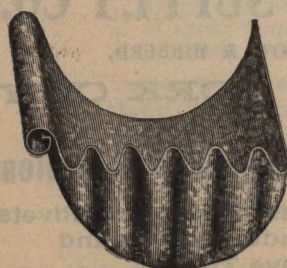


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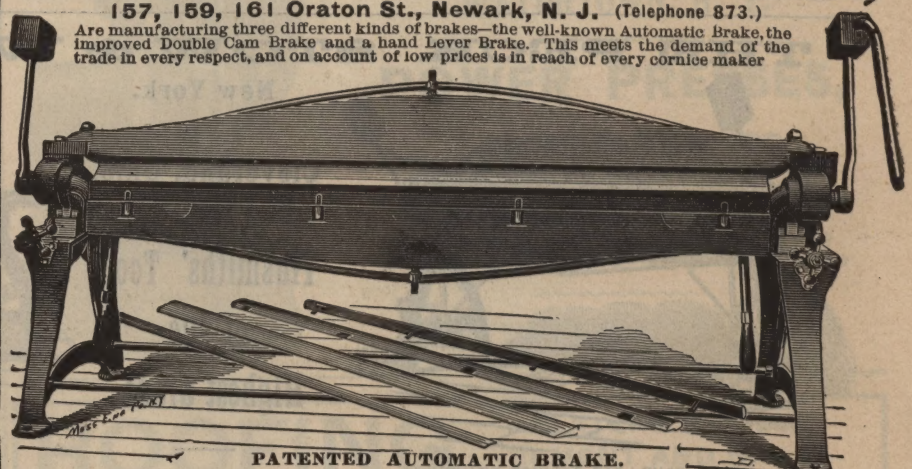
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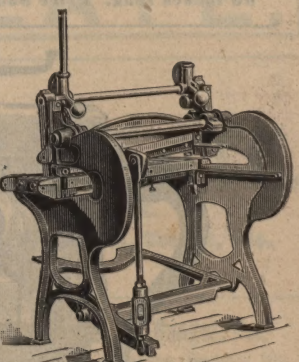
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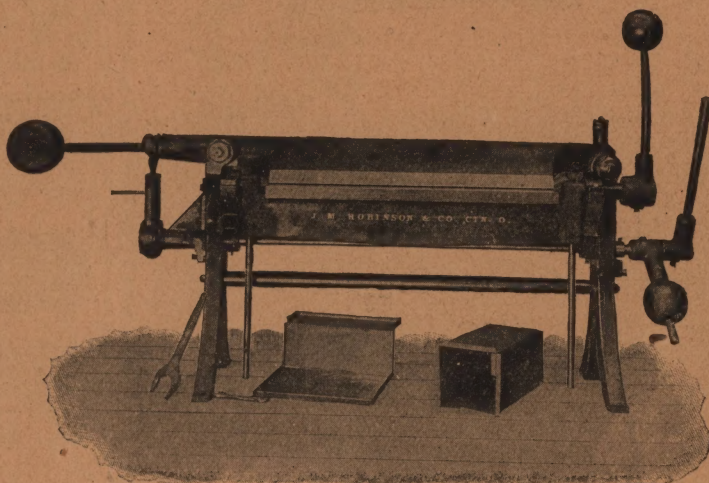
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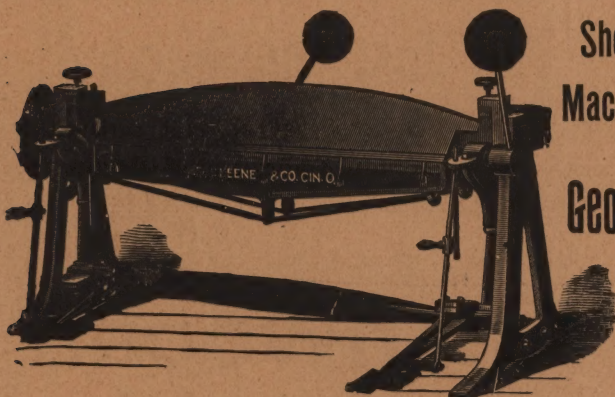
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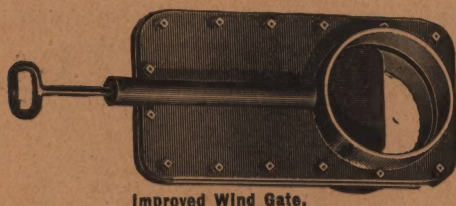


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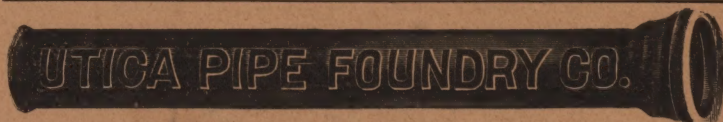
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We'll tell you our 1898 Story. Not satisfied with success—we want more trade, and if **Bright Goods** and **Bright Advertising** count, we'll have it.

Watch for new

## Glenwoods

they are coming thick and fast.

## HEATER PIPE TIN.

We have the following sizes in stock:

IC & IX, 20 x 26, for 8 in. pipe.

IC & IX, 20 x 29½, " 9 in. "

IC & IX, 20 x 32½, " 10 in. "

IC & IX, 20 x 35¼, " 11 in. "

IX, 20 x 39, " 12 in. "

"Cupola" Brand.

Superior quality and finish. We invite correspondence before buying.

**McCLURE & CO.,**

PHILADELPHIA,

PITTSBURG, PA.,

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